```
=> file .nash
=> s reverse transcriptase and (amv or avian myeloblastosis)
L1          445 FILE MEDLINE
L2          857 FILE CAPLUS
L3          289 FILE SCISEARCH
L4          211 FILE LIFESCI
L5          659 FILE BIOSIS
L6          402 FILE EMBASE

TOTAL FOR ALL FILES
L7         2863 REVERSE TRANSCRIPTASE AND (AMV OR AVIAN MYELOBLASTOSIS)

=> s reverse transcriptase and (amv or avian myeloblastosis virus)
TOTAL FOR ALL FILES
L14        2771 REVERSE TRANSCRIPTASE AND (AMV OR AVIAN MYELOBLASTOSIS VIRUS)

=> s l14 and (purif or charact? or isolat?)
TOTAL FOR ALL FILES
L21         746 L14 AND (PURIF OR CHARACT? OR ISOLAT?)

=> s l14 and (clon? or dna or cdna or gene or rna or mrna)
TOTAL FOR ALL FILES
L28        2508 L14 AND (CLON? OR DNA OR CDNA OR GENE OR RNA OR MRNA)

=> s l21 or l28
TOTAL FOR ALL FILES
L35        2555 L21 OR L28

=> s l35 and (purif? or charact? or isolat?)(a) reverse transcriptase
TOTAL FOR ALL FILES
L42          63 L35 AND (PURIF? OR CHARACT? OR ISOLAT?)(A) REVERSE TRANSCRIPTASE

=> s l42 not 1998-2002/py

TOTAL FOR ALL FILES
L49          61 L42 NOT 1998-2002/PY

=> dup rem l49
PROCESSING COMPLETED FOR L49
L50           32 DUP REM L49 (29 DUPLICATES REMOVED)

=> d ibib abs 1-32

L50  ANSWER 1 OF 32  CAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:        1995:808030  CAPLUS
DOCUMENT NUMBER:         123:192353
TITLE:                   Inhibition of proteinases in purification of
                         RNA-directed DNA-polymerase from
                         avian myeloblastosis virus
INVENTOR(S):             Degtyarev, S. Kh.; Netesova, N. A.; Netesov, S. V.
PATENT ASSIGNEE(S):      Vsesoyuznyj Nauchno-Issledovatelskij Institut
                         Molekulyarnoj Biologii, Russia
SOURCE:                  U.S.S.R.  From: Izobreteniya 1994, (2), 211.
                         CODEN: URXXAF
DOCUMENT TYPE:           Patent
LANGUAGE:                Russian
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     SU 1360195         A1   19940130      SU 1986-4058243  19860217
AB   Title only translated.

L50  ANSWER 2 OF 32  CAPLUS  COPYRIGHT 2002 ACS        DUPLICATE 1
ACCESSION NUMBER:        1994:100176  CAPLUS
DOCUMENT NUMBER:         120:100176
TITLE:                   Human immunodeficiency virus reverse
                         transcriptase: purification and
                         substrate properties
```

AUTHOR(S): Rozovskaya, T. A.; Belogurov, A. A.; Lukin, M. A.; Chernov, D. N.; Kukhanova, M. K.; Biblashvilli, R.Sh.
CORPORATE SOURCE: Inst. Exp. Cardiol., Cardiol. Res. Cent., Moscow, 121552, Russia
SOURCE: Mol. Biol. (Moscow) (1993), 27(3), 618-30
CODEN: MOBIBO; ISSN: 0026-8984
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Human immunodeficiency virus (HIV-I) **reverse transcriptase** was expressed in E. coli and purified to homogeneity (E. coli strain RRI (pRC-RT, pRK 248cIts)). The authors have investigated the substrate properties of some nucleoside-5'-triphosphate analogs, previously studied in the same reactions, catalyzed by **AMV** and M-MLV **reverse transcriptases**, toward **DNA** synthesis, catalyzed by HIV **reverse transcriptase**. Substrate properties of new analogs of 2'-deoxyadenosine-5'-triphosphatase, 2',3'-dideoxy-2',3'-didehydro- and 2',3'-dideoxytubercidin-5'-triphosphatases were also investigated . The authors have compared the relative efficiency of incorporation of different analogs tested in the **DNA** chain. It has been shown that expressed and purified HIV **reverse transcriptase** had the same specificity to analogs of 2'-deoxyribonucleoside-5'-triphosphates as was described for **reverse transcriptases** and natural HIV **reverse transcriptase** as well. These properties allow to apply the expressed HIV **reverse transcriptase** in different model systems.

L50 ANSWER 3 OF 32 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 94:146204 SCISEARCH
THE GENUINE ARTICLE: MX690
TITLE: HUMAN-IMMUNODEFICIENCY-VIRUS **REVERSE-TRANSCRIPTASE - ISOLATION** AND SUBSTRATE-SPECIFICITY
AUTHOR: ROZOVSKAYA T A (Reprint); BELOGUROV A A; LUKIN M A; CHERNOV D N; KUKHANOVA M K; BIBILASHVILI R S
CORPORATE SOURCE: RUSSIAN ACAD MED SCI, CARDIOL RES CTR, INST EXPTL CARDIOL, MOSCOW 121552, RUSSIA (Reprint); RUSSIAN ACAD SCI, VA ENGELHARDT INST MOLEC BIOL, MOSCOW 117984, RUSSIA
COUNTRY OF AUTHOR: RUSSIA
SOURCE: MOLECULAR BIOLOGY, (MAY/JUN 1993) Vol. 27, No. 3, Part 2, pp. 376-383.
ISSN: 0026-8933.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 27

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The **isolation** of human immunodeficiency virus (HIV) **reverse transcriptase** produced in bacteria [E. coli RRi strain (pRC-RT, pRK248cIts)] is described. Substrate properties of 2'-deoxyribonucleoside 5'-triphosphate analogs studied previously in cell-free systems with **avian myeloblastosis virus** and Moloney murine leukemia virus **reverse transcriptases** were examined in vitro with HIV **reverse transcriptase**. The substrate properties of new 2'-deoxyadenosine 5'-triphosphate analogs-2',3'-dideoxy-2',3'-didehydro- and 2',3'-dideoxytubercidin 5'-triphosphates-were examined. The relative efficiency of incorporation of different 2'-deoxyribonucleoside 5'-triphosphate analogs into the **DNA** chain was evaluated. It was shown that HIV **reverse transcriptase cloned** in E. call and purified by the described method exhibits selectivity toward various 2'-deoxyribonucleoside 5'-triphosphates that is **characteristic** of the previously studied **reverse transcriptases** including the native viral one. This property permits the employment of the **cloned** enzyme in different model systems.

L50 ANSWER 4 OF 32 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 89225800 EMBASE
DOCUMENT NUMBER: 1989225800
TITLE: Purification and immunological **characterization**

of **reverse transcriptase** associated
with hepatitis non-A, non-B.
AUTHOR: Seto B.; Coleman Jr. W.G.
CORPORATE SOURCE: Hepatitis Laboratory, Division of Blood and Blood Products, Center for Biologics Evaluation and Research, Bethesda, MD 20892, United States
SOURCE: Serodiagnosis and Immunotherapy in Infectious Disease, (1989) 3/1 (7-15).
ISSN: 0888-0786 CODEN: SIIDE3
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal
FILE SEGMENT: 026 Immunology, Serology and Transplantation
047 Virology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The infectious viral particles present in a hepatitis non-A, non-B patient serum (inoculum I) were sedimented by centrifugation. Following detergent disruption, the particle-associated **reverse transcriptase** in the sediment was fractionated by affinity chromatography and **characterized** by immunoblot analyses and radioimmunoprecipitation. By using specific antibodies to simian sarcoma virus **reverse transcriptase**, a cross-reactive protein of 80,000 daltons was detected in inoculum I, but not in a control serum. During affinity chromatgraphy of the viral lysate on oligo(dC) cellulose (either stepwise or gradient elution), the **reverse transcriptase** was eluted by 0.2-0.3 M KCl. The **reverse transcriptase** thus purified was immunoprecipitated by antisera to **reverse transcriptase** from type C mammalian retroviruses, including simian sarcoma virus (SSV), RD114, baboon endogenous virus (BaEV), and Rauscher leukemia virus (RLV). No significant immunoprecipitate was obtained with antisera to **reverse transcriptase** from **avian myeloblastosis virus** (**AMV**) or type B and type D viruses. These results indicate that the **reverse transcriptase purified** from hepatitis non-A, non-B serum shares one or more determinants with other type C mammalian virus **reverse transcriptases**.

L50 ANSWER 5 OF 32 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 88106484 MEDLINE
DOCUMENT NUMBER: 88106484 PubMed ID: 2447881
TITLE: Hemin inhibits virion-associated **reverse transcriptase** of murine leukemia virus.
AUTHOR: Tsutsui K; Mueller G C
CORPORATE SOURCE: McArdle Laboratory for Cancer Research, University of Wisconsin, Madison 53706.
CONTRACT NUMBER: P01-CA-23076 (NCI)
P30-CA-07175 (NCI)
T32-CA-09135 (NCI)
SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1987 Dec 16) 149 (2) 628-34.
Journal code: 9Y8; 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198801
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19880128
AB The virion-associated **reverse transcriptase** activity of Rauscher murine leukemia virus was inhibited by freshly prepared hemin at a concentration of 10(-4) M. When the hemin solution was aged at room temperature for 5 days, the concentration of 50% inhibition decreased to as low as 10(-7) M. Removal of O2 from the solution partially prevented the aging. The hemin inhibition was reversible and appears to be directed against the enzyme rather than the template. Hemin did not inhibit the activity of **reverse transcriptase purified** from **avian myeloblastosis virus**.

L50 ANSWER 6 OF 32 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1984:625480 CAPLUS
DOCUMENT NUMBER: 101:225480
TITLE: **Isolation** of **reverse transcriptase** from **avian myeloblastosis virus** in preparative amounts
AUTHOR(S): Staverskaya, O. V.; Dobrovol'skaya, G. N.; Kavsan, V. M.; Ishchenko, I. D.; Ryndich, A. V.; Nazarenko, L. A.
CORPORATE SOURCE: Inst. Mol. Biol. Genet., Kiev, USSR
SOURCE: Ukr. Biokhim. Zh. (1984), 56(5), 503-14
CODEN: UBZHD4; ISSN: 0201-8470
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Essential factors in the **isolation** and purifn. of **reverse transcriptase** of **avian myeloblastosis virus** are discussed, including selection and care of chickens for virus growth. Methods for **isolation** and purifn. of the enzyme, as well as conditions for its storage, are presented in detail.

L50 ANSWER 7 OF 32 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 84160757 MEDLINE
DOCUMENT NUMBER: 84160757 PubMed ID: 6200446
TITLE: Purification of a specific inhibitor of **reverse transcriptase** from human placenta.
AUTHOR: Leong J C; Wood S O; Lyford A O; Levy J A
CONTRACT NUMBER: 93-6001786
SOURCE: INTERNATIONAL JOURNAL OF CANCER, (1984 Apr 15) 33 (4) 435-9.
Journal code: GQU; 0042124. ISSN: 0020-7136.
PUB. COUNTRY: Denmark
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198405
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19970203
Entered Medline: 19840518

AB Human placental extracts contain a factor which specifically and reversibly inhibits the **reverse transcriptase** of mammalian retroviruses. This placental inhibitor has been partially purified and **characterized**. It elutes at 0.1-0.2 M phosphate on hydroxyapatite chromatography and can be further purified by phosphocellulose chromatography where it elutes at 0.4 M KCl. By these purification procedures, specific activities of 40-70,000 units of inhibitor per mg of protein were obtained. The size of the inhibitor is about 60-65,000 daltons as estimated by velocity sedimentation. The inhibitor purified by these techniques selectively inhibits the activity of **purified reverse transcriptase** from Rauscher murine leukemia virus and baboon endogenous virus. It is substantially less active against the **reverse transcriptase** of **avian myeloblastosis virus**. The specificity of this inhibitor for mammalian enzymes and particularly for the human placental **reverse transcriptase** suggests that it plays a role in the regulation of **DNA** synthesis in human placental development.

L50 ANSWER 8 OF 32 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 83203981 MEDLINE
DOCUMENT NUMBER: 83203981 PubMed ID: 6189479
TITLE: Inhibition of **reverse transcriptases** by seminalplasmin.
AUTHOR: Reddy E S; Das M R; Reddy E P; Bhargava P M
SOURCE: BIOCHEMICAL JOURNAL, (1983 Jan 1) 209 (1) 183-8.
Journal code: 9YO; 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198306
ENTRY DATE: Entered STN: 19900318

Last Updated on STN: 19970203
Entered Medline: 19830610

AB Seminalplasmin, an antibacterial protein present in bovine seminal plasma, is shown to be a potent inhibitor of **reverse transcriptases** (**RNA**-dependent **DNA** nucleotidyltransferases). Seminalplasmin inhibits **RNA**-directed, hybrid-directed, and **DNA**-directed **DNA**-polymerizing activities of **purified reverse transcriptase** from **avian myeloblastosis virus** and from crude viral lysates of several retroviruses by binding to the enzyme, at least in the case of **avian myeloblastosis virus**. Seminalplasmin does not inhibit significantly **DNA** synthesis either by Escherichia coli **DNA** polymerase I, or a mammalian alpha-**DNA** polymerase. The presence of seminalplasmin in the seminal fluid could provide protection to the male and/or the female reproductive tract against retroviruses.

L50 ANSWER 9 OF 32 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 82150232 MEDLINE
DOCUMENT NUMBER: 82150232 PubMed ID: 6174940
TITLE: Reverse transcription of **avian myeloblastosis virus** 35S **RNA**. Early synthesis of plus strand **DNA** of discrete size in reconstructed reactions.
AUTHOR: Olsen J C; Watson K F
CONTRACT NUMBER: CA16315 (NCI)
CA19729 (NCI)
SOURCE: NUCLEIC ACIDS RESEARCH, (1982 Feb 11) 10 (3) 1009-27.
Journal code: O8L; 0411011. ISSN: 0305-1048.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198205
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19970203
Entered Medline: 19820527

AB The early **DNa** products of reverse transcription have been analyzed from reconstructed reactions containing **avian myeloblastosis virus** 35S **RNA** . tRNAtrp complex and highly **purified reverse transcriptase**. We describe conditions for the synthesis of genome-length complementary **DNA** and two discrete species of plus strand **DNA** (the same chemical polarity as the viral **RNA** genome) about 300 and 400 nucleotides in length. Plus DNA400 and plus DNA300 were detected by molecular hybridization with **DNA** probes complementary to sequences from both the 3'- and 5'-ends of the viral **RNA**. Both species appear to be copied from the 5'-end of minus strand **DNA** by their hybridization properties and their early synthesis when only the 5'-end of minus strand **DNA** is available as template. Restriction endonuclease mapping of plus DNA400 and plus DNA300 rules out a precursor-product relationship between the two. Rather the results suggest a unique initiation site for both species, with plus DNA400 containing internal sequences not present in plus DNA300. Plus DNA400 and plus DNA300 appear to be analogous to early plus **DNA** species detected in cells early after retrovirus infection. Thus, **purified reverse transcriptase** appears to be enzymatically sufficient for synthesis of genome-length complementary **DNA** and initiation and synthesis of early plus strand **DNA** as observed in infected cells.

L50 ANSWER 10 OF 32 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 82219582 MEDLINE
DOCUMENT NUMBER: 82219582 PubMed ID: 6178013
TITLE: Differential inhibition of **DNA** polymerase and RNase H activities of the **reverse transcriptase** by phosphonoformate.
AUTHOR: Margalith M; Falk H; Panet A
SOURCE: MOLECULAR AND CELLULAR BIOCHEMISTRY, (1982 Mar 19) 43 (2) 97-103.
Journal code: NGU; 0364456. ISSN: 0300-8177.

PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198208
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19980206
Entered Medline: 19820807

AB Three potential inhibitors of **reverse transcriptase** activities, phosphonoformate (PF), phosphonoacetate (PAA), and ethyl-diethyl phosphonoformate (Et-PF), were compared in this study. Only PF was found to inhibit the **DNA** polymerase activity of the **purified reverse transcriptase** of Moloney murine leukemia virus (M-MuLV) and **avian myeloblastosis virus** (**AMV**). The degree of **DNA** polymerase inhibition was linear with PF concentration; 50% inhibition was achieved at 10 muM. Whereas PF inhibited both the **RNA** and **DNA** dependent **DNA** polymerase activities, the RNase H activity of the **reverse transcriptase** was unaffected. Both the endogenous **DNA** polymerase activity in detergent disrupted virus and the activity of the purified enzyme with the **isolated** virus genome 70S **RNA** were inhibited by PF. However, higher concentrations of PF were needed to inhibit the endogenous reaction. The inhibition by PF appeared to be reversible and noncompetitive with respect to the substrate deoxythymidine triphosphate (dTTP). Addition of PF after the initiation of **DNA** synthesis immediately arrested the reaction.

L50 ANSWER 11 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:176346 CAPLUS
DOCUMENT NUMBER: 96:176346
TITLE: Enzymatic synthesis of duplex **DNA** by avian myeloblastosis viral **reverse transcriptase**
AUTHOR(S): Papas, Takis S.; Schulz, Robert A.; Chirikjian, Jack G.
CORPORATE SOURCE: Lab. Tumor Virus Genet., Natl. Cancer Inst., Bethesda, MD, 20205, USA
SOURCE: Gene Amplif. Anal. (1981), 2, 1-16
CODEN: GAAND8; ISSN: 0275-2778
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Intact 35 S **RNA** extd. from **avian myeloblastosis virus** was incubated with **purified reverse transcriptase** from the same virus (20 units/.mu.g **RNA**) at 37.degree. for 1 h in the presence of 4 mM pyrophosphate, the 4 deoxyribonucleoside triphosphates, and an oligo(T) primer to produce full-length **cDNA** (2.6 .times. 106 daltons) and a smaller **cDNA** species (2.0 .times. 106-2.3 .times. 106 daltons). These correspond to the 2 **RNA** template species of 7600 and 7000 nucleotides. S1 nuclease digestion of the **cDNA** transcripts showed them to have 11% double-stranded **character**, probably owing to a hairpin structure. Further incubation of the **cDNA** with **reverse transcriptase** and deoxyribonucleoside triphosphates at 42.degree. in the absence of primer lead to second-strand synthesis, which proceeded in parallel with the increase in S1 nuclease resistance and was complete in 30 mins. The final products were 2 linear duplexes of 5.2 .times. 106 and 4.0 .times. 106 daltons.

L50 ANSWER 12 OF 32 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 80115746 MEDLINE
DOCUMENT NUMBER: 80115746 PubMed ID: 6153389
TITLE: Enzymatic activities associated with avian and murine retroviral **DNA** polymerases. Catalysis of and active site involvement in pyrophosphate exchange and pyrophosphorolysis reactions.
AUTHOR: Srivastava A; Modak M J
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1980 Mar 10) 255 (5) 2000-4.
Journal code: HIV; 2985121R. ISSN: 0021-9258.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198004
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19970203
Entered Medline: 19800425

AB **Reverse transcriptase isolated** from **avian myeloblastosis virus** (**AMV**) and Rauscher murine leukemia virus (RLV) were examined for their ability to catalyze polymerization, ribonuclease H, pyrophosphate exchange, and pyrophosphorolysis reactions. A detailed **characterization** and a study of requirements for the expression of pyrophosphate exchange and pyrophosphorolysis reactions indicated that a variety of **RNA** and **DNA** template-primers supported these catalytic reactions. Furthermore, hydrogen bonding of template to primer was essential, although **RNA**:**RNA** template-primers, e.g. poly(rA) . (rU)9 or 70 S **RNA** . tRNA complex, were not utilized for these reactions. **AMV** enzyme required Mg2+, and RLV enzyme Mn2+, as the preferred divalent metal ion for the expression of these activities. Response of various catalytic reactions to site-specific inhibitors revealed that polymerization and pyrophosphate exchange reactions were susceptible to reagents that affected either the substrate or the template binding site, intrinsic zinc, or sulfhydryl groups. RNase H and pyrophosphorolysis activities, on the other hand, exhibited susceptibility only to the template site-specific reagent. We, therefore, conclude that RNase H and pyrophosphorolysis reactions are catalyzed through the template binding site while polymerization and pyrophosphate exchange reactions require additional participation of the substrate binding site, as well as that of intrinsic zinc and the presence of reactive sulfhydryl groups.

L50 ANSWER 13 OF 32 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 8
ACCESSION NUMBER: 1981:78573 CAPLUS
DOCUMENT NUMBER: 94:78573
TITLE: Avian retrovirus **RNA**-directed **DNA** synthesis by **purified reverse transcriptase**. Covalent linkage of **RNA** to plus strand **DNA**
AUTHOR(S): Olsen, John C.; Watson, Kenneth F.
CORPORATE SOURCE: Dep. Chem., Univ. Montana, Missoula, MT, 59812, USA
SOURCE: Biochem. Biophys. Res. Commun. (1980), 97(4), 1376-83
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **DNA** with the same polarity as its viral **RNA** template was synthesized in reconstructed reactions contg. highly purified **avian myeloblastosis virus reverse transcriptase** and 35 S **RNA** template-tRNATrp primer. By performing radioisotope transfer expts. with plus strand **DNA** **isolated** from synthetic reactions contg. 1 of the four .alpha.-[32P]deoxyribonucleoside triphosphates, it was detd. that **RNA** is covalently linked to the 5'-termini of plus strand **DNA**. Whereas all 16 possible rNMP-dNMP linkages were detected, 50% of all transfers were to 2'(3')-AMP. It is concluded that 35 S **RNA**-tRNATrp template-primer-directed synthesis of plus strand **DNA** is initiated with **RNA** primer(s). The most probable origin of the primer(s) is viral RNase H-generated fragments of the viral **RNA** template.

L50 ANSWER 14 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1980:189365 BIOSIS
DOCUMENT NUMBER: BA69:64361
TITLE: A SIMPLE PURIFICATION OF **AVIAN MYELOBLASTOSIS VIRUS REVERSE TRANSCRIPTASE** FOR FULL LENGTH TRANSCRIPTION OF 35S **RNA**.
AUTHOR(S): MYERS J C; RAMIREZ F; KACIAN D L; FLOOD M; SPIEGELMAN S
CORPORATE SOURCE: INST. CANCER RES., DEP. HUM. GENET. DEV., COLL. PHYS. SURG., COLUMBIA UNIV., 701 W. 168TH ST., NEW YORK, N.Y.

10032, USA.
SOURCE: ANAL BIOCHEM, (1980) 101 (1), 88-96.
CODEN: ANBCA2. ISSN: 0003-2697.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Complete transcription of large **RNA** templates by **avian myeloblastosis virus reverse transcriptase** requires a purified and concentrated enzyme. A simple 2 day procedure consisting of a DEAE column, a carboxymethyl-Sepharose column and a concentration step is described. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis shows that the enzyme is free of containing protein and a series of rigorous assays reveal little if any exogenous RNase or DNase activity. The **reverse transcriptase purified** by this method readily catalyzes synthesis of full-length complementary **DNA** from viral **RNA**.

L50 ANSWER 15 OF 32 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 80054428 MEDLINE
DOCUMENT NUMBER: 80054428 PubMed ID: 91944
TITLE: [Enzymatic synthesis and **characterization** of **DNA** complementary to ceruloplasmin **mRNA** from rat liver].
Fermentativnyi sintez i kharakteristika DNK, komplementarnoi tseruloplazminovoi mRNK iz pecheni krysy.
AUTHOR: Frolova L Iu; Shvartsman A L; Skobeleva N A; L'vov V M; Gaitskhoki V S
SOURCE: MOLEKULIARNAIA BIOLOGIIA, (1979 Sep-Oct) 13 (5) 1070-6.
Journal code: NGX; 0105454. ISSN: 0026-8984.
PUB. COUNTRY: USSR
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198001
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19980206
Entered Medline: 19800124
AB Poly(A) containing rat liver 21S **RNA** homogeneous in polyacrylamide gel electrophoresis under denaturing conditions and stimulating the synthesis of ceruloplasmin in a cell-free proteinsynthesizing system, was used as a template for reverse transcription in the presence of T10 primer and highly **purified reverse transcriptase** from **avian myeloblastosis virus**. The **cDNA** made this way was **characterized** by means of hybridization kinetics with **mRNA**, by melting of the hybrids formed and by chain length measurements. To increase the degree of representativity, the ceruloplasmin **mRNA** was fragmented by mild alkaline treatment, enzymatically polyadenylated and transcribed. The **cDNA** made was fully **characterized** and the kinetic complexity measured by hybridization with the **mRNA** was found to be equal to 2300 nucleotides as compared with the value of 3000 nucleotides is expected from gel electrophoresis data. The observed difference may indicate the presence of repeated sequences in the given **mRNA**. The sufficient representativitness of the synthesized **cDNA** and its specificity with respect to ceruloplasmin **mRNA** allows to use it as a molecular probe to study the ceruloplasmin **gene** structure.

L50 ANSWER 16 OF 32 MEDLINE DUPLICATE 10
ACCESSION NUMBER: 80161870 MEDLINE
DOCUMENT NUMBER: 80161870 PubMed ID: 94344
TITLE: Phosphonoformate inhibits **reverse transcriptase**.
AUTHOR: Sundquist B; Oberg B
SOURCE: JOURNAL OF GENERAL VIROLOGY, (1979 Nov) 45 (2) 273-81.
Journal code: I9B; 0077340. ISSN: 0022-1317.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198006

ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19970203
Entered Medline: 19800616

AB The new antiviral substance phosphonoformate (PFA) has been tested in a cell-free system for its effect on **reverse transcriptases** from an avian retrovirus (**avian myeloblastosis virus, AMV**) and from mammalian retroviruses (Rauscher leukaemia virus, RMuLV; bovine leukaemia virus; baboon endogenous virus; simian sarcoma virus; visna virus). The observed inhibitory effect of PFA has been compared with that of a structurally related substance, phosphonoacetate (PAA). Phosphonoformate, at a concentration of 100 microM, reduced the activities of all the above mentioned polymerases by 90% when (rA)n.(dT)10 was used as a template/primer. The dose-response curves for **AMV** and RMuLV polymerases primed with (rA)n.(dT)10 showed PFA to be a 1000-fold more active than PAA; the RMuLV polymerase activity was reduced to 50% after incubation with 0.7 microM-PFA and 0.7 mM-PAA, respectively. There was no difference in PFA inhibition of virus-associated and **purified reverse transcriptase** activity. Results with various synthetic templates showed that both the **RNA-** and the **DNA**-dependent polymerase activities of **reverse transcriptase** were inhibited by PFA. The endogenous polymerase activity of **AMV** was inhibited to 50% at 100 microM-PFA, while PAA had no effect. The PFA inhibition was dependent on whether Mg2+ or Mn2+ was used as divalent cation in the assay. Phosphonoformate arrested **DNA** synthesis immediately after being added to the assay system. The mechanism of inhibition of the **AMV** polymerase was non-competitive with respect to substrate and template and the apparent inhibition constants were 16 microM and 9 microM, respectively.

L50 ANSWER 17 OF 32 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 80066954 MEDLINE
DOCUMENT NUMBER: 80066954 PubMed ID: 92361
TITLE: Serological **characterization** of a **purified reverse transcriptase** from osteosarcoma of a child.
AUTHOR: Welte K; Ebener U; Chandra P
SOURCE: CANCER LETTERS, (1979 Aug) 7 (4) 189-95.
Journal code: CMX; 7600053. ISSN: 0304-3835.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198002
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19800215

AB Serological analysis of the **reverse transcriptase** (RTase), purified from human osteosarcoma tissue, has shown that it is antigenically related to **DNA** polymerases from BEV and from RD-114. No cross-reactivity of the osteosarcoma RTase was observed with RTases purified from **AMV**, RLV, SiSV, GaLV and from human spleen of a patient with myelofibrosis.

L50 ANSWER 18 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:53968 CAPLUS
DOCUMENT NUMBER: 92:53968
TITLE: A simple purification of **avian myeloblastosis virus reverse transcriptase** for full-length transcription of 35 S **RNA**
AUTHOR(S): Myers, Jeanne C.; Ramirez, F.; Kacian, D. L.; Flood, M.; Spiegelman, S.
CORPORATE SOURCE: Coll. Physicians Surg., Columbia Univ., New York, NY, 10032, USA
SOURCE: Anal. Biochem. (1979), 101(1), 88-96
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple 2-day procedure for purifying **avian myeloblastosis virus reverse**

transcriptase was devised, consisting of chromatog. on a DEAE-cellulose column and a CM-Sepharose column and a concn. step. Na dodecyl sulfate-polyacrylamide gel electrophoresis showed that the enzyme was free of contaminating protein and a series of rigorous assays revealed little if any exogenous RNase or DNase activity. The **reverse transcriptase purified** by this method readily catalyzed synthesis of full-length complementary **DNA** from viral **RNA**.

L50 ANSWER 19 OF 32 MEDLINE DUPLICATE 12
ACCESSION NUMBER: 79083948 MEDLINE
DOCUMENT NUMBER: 79083948 PubMed ID: 83188
TITLE: Biochemical and immunological **characterization** of a **reverse transcriptase** from human melanoma tissue.
AUTHOR: Chandra P; Balikcioglu S; Mildner B
SOURCE: CANCER LETTERS, (1978 Dec) 5 (6) 299-310.
Journal code: CMX; 7600053. ISSN: 0304-3835.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197903
ENTRY DATE: Entered STN: 19900314
Last Updated on STN: 19900314
Entered Medline: 19790328

AB An **RNA**-direct **DNA** polymerase was purified from human melanoma tissue by successive column chromatography on DEAE-cellulose (DE-23 and DE-52) and phosphocellulose. The **purified reverse transcriptase** has a mol. wt. of 68,000, a pH optimum of 8.0, a Mn2+ optimum of 0.6 mM, and a KCl optimum of 60 mM. The purified enzyme transcribes (rA)n - (dT)12, (rC)n - (dG)18, (Ome-rC)n - (dG)18 and a 70s **RNA** from Rauscher leukemia virus (RLV), but failed to transcribe (dA)n - (dT)12. This enzyme has no terminal deoxynucleotidyl transferase activity. Serological studies have shown that the **reverse transcriptase** from human melanoma tissue is antigenically not related to **DNA** polymerases from Simian sarcoma virus (SiSV), **Avian myeloblastosis virus** (**AMV**), RLV, and human spleen of a patient with myelofibrosis. The purified enzyme showed a close antigenic resemblance to **DNA** polymerases from baboon endogenous virus (BEV) and rhabdomyosarcoma virus (RD-114), the endogenous virus of the cat.

L50 ANSWER 20 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:502778 CAPLUS
DOCUMENT NUMBER: 89:102778
TITLE: Physical separation of **DNA** polymerase and RNase H activities associated with **AMV reverse transcriptase**
AUTHOR(S): Lai, Mei-Huei T.; Verma, Inder M.
CORPORATE SOURCE: Tumor Virol. Lab., Salk Inst., San Diego, Calif., USA
SOURCE: Adv. Comp. Leuk. Res., Proc. Int. Symp., 8th (1978), Meeting Date 1977, 245-6. Editor(s): Bentvelzen, Peter; Hilgers, Jo; Yohn, David S. Elsevier: Amsterdam, Neth.
CODEN: 38PCAA
DOCUMENT TYPE: Conference
LANGUAGE: English

AB Although both **DNA** polymerase and RNase H activities assocd. with purified **avian myeloblastosis virus reverse transcriptase** reside on the same polypeptide, they appear to have different functional sites. A polypeptide fragment of mol. wt. 24,000 exhibiting only RNase H activity was generated by in vitro proteolysis of **purified reverse transcriptase** with chymotrypsin.

L50 ANSWER 21 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 13
ACCESSION NUMBER: 1978:245763 BIOSIS
DOCUMENT NUMBER: BA66:58260
TITLE: BINDING OF TRANSFER **RNA** TO **REVERSE**

TRANSCRIPTASE OF **RNA** TUMOR VIRUSES.

AUTHOR(S): PANET A; BERLINER H

CORPORATE SOURCE: DEP. VIROL., HEB. UNIV., HADASSAH MED. SCH., JERUSALEM, ISR.

SOURCE: J VIROL, (1978) 26 (2), 214-220.
CODEN: JOVIAM. ISSN: 0022-538X.

FILE SEGMENT: BA; OLD

LANGUAGE: English

AB The interaction of tRNA with the **reverse transcriptase** (**RNA**-dependent **DNA** polymerase) of mammalian **RNA** viruses, such as Moloney murine leukemia virus and simian sarcoma virus, was studied. Whereas the **purified reverse transcriptase** of mammalian viruses sedimented in glycerol gradients as a globular protein with a MW of 70,000, after interaction with tRNA the enzyme cosedimented with a protein of 150,000 MW. The 2-fold increase in MW could be a result of either 2 **reverse transcriptase** molecules complexed with a tRNA or, alternatively, several tRNA molecules bound to a single enzyme polypeptide. The enzyme complexes were dissociated in part upon degradation of the tRNA moiety by pancreatic RNase A. The **reverse transcriptase** released from virions of Moloney murine leukemia virus, simian sarcoma virus and **avian myeloblastosis virus**, by nonionic detergent, migrated faster on glycerol gradients than purified enzyme preparation. This phenomenon was probably due to complex formation between part of the virion enzyme and the tRNA, which is endogenous in virions. Addition of exogenous tRNA was needed to quantitatively complex all the virion **reverse transcriptase** of Moloney murine leukemia virus and simian sarcoma viruses. The **reverse transcriptase** of Moloney murine leukemia virus did not show tRNA species specificity in the binding reaction when glycerol gradients were used to assay. Thus, several tRNA species of Escherichia coli, yeast, chicken and rat origin were able to complex with the enzyme. The species specificity in the interaction between tRNA and **avian myeloblastosis virus reverse transcriptase** was also examined. Under experimental conditions, this enzyme binds different tRNA species of E. coli, yeast and chicken.

L50 ANSWER 22 OF 32 MEDLINE DUPLICATE 14

ACCESSION NUMBER: 77149037 MEDLINE

DOCUMENT NUMBER: 77149037 PubMed ID: 66684

TITLE: Rous sarcoma virus genome is terminally redundant: the 3' sequence.

AUTHOR: Schwartz D E; Zamecnik P C; Weith H L

SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1977 Mar) 74 (3) 994-8.
Journal code: PV3; 7505876. ISSN: 0027-8424.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

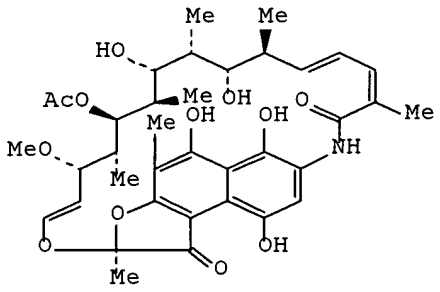
FILE SEGMENT: Priority Journals

ENTRY MONTH: 197705

ENTRY DATE: Entered STN: 19900313
Last Updated on STN: 19970203
Entered Medline: 19770512

AB A sequence of 20 nucleotide residues immediately adjacent to the 3'-terminal poly(A) in Rous sarcoma virus (Prague strain, subgroup C) 35S **RNA** has been determined by extension of a riboguanylic acid-terminated oligothymidylic acid primer hybridized at the 5' end of the 3'-terminal poly(A) with **purified reverse transcriptase** (**RNA**-directed **DNA** polymerase; deoxynucleosidetriphosphate:**DNA** deoxynucleotidyltransferase, EC 2.7.7.7) from **avian myeloblastosis virus**. The sequence is 5'GCCAUUUUACCAUUCACCACpoly(A)3'. This same nucleotide sequence, excluding the poly(A) segment, has also been found at the 5' terminus of Rous sarcoma virus **RNA** (W. A. Haseltine, A. Maxam, and W. Gilbert, this issue pp. 989-993), and therefore the **RNA** genome of this virus is terminally redundant. Possible mechanisms for endogenous in vitro copying of the complete **RNA** genome by **reverse transcriptase** which involve terminally repeated nucleotide sequences are discussed.

L50 ANSWER 23 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:68949 CAPLUS
DOCUMENT NUMBER: 88:68949
TITLE: Different modes of inhibition of purified ribonucleic acid directed deoxyribonucleic acid polymerase of **avian myeloblastosis virus** by rifamycin SV derivatives
AUTHOR(S): Gurgo, Corrado; Grandgenett, Duane P.
CORPORATE SOURCE: Inst. Mol. Virol., St. Louis Univ., St. Louis, Mo., USA
SOURCE: Biochemistry (1977), 16(4), 786-92
CODEN: BICHAW
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB The mechanism by which several rifamycin SV (I) derivs. inhibit the **purified reverse transcriptase** [9068-38-6] of **avian myeloblastosis virus** was investigated. The ability of C-27 [37839-24-0], AF-013 [35225-13-9], and AF/DNFI [36540-61-1] in order of decreasing activity, to inhibit the viral **DNA** polymerase at an initial step(s) was directly related to the lipophilicity of the compds. When inhibition of later steps was examd., no correlation was obsd. C-27 was the least inhibitory of the 3 derivs. when added during polymn.; anal. of the mode of inhibition demonstrated that reinitiation, but not chain elongation, was inhibited. Incorporation of triphosphates into chains initiated prior to drug addn. continued in the presence of C-27 and was progressively blocked at later times, while immediate, complete inhibition of triphosphate addn. to new primer mols. followed drug addn. Polyacrylamide gel profiles of poly(dT) synthesized in the presence and absence of the drugs were compared. The amt. of product synthesized in the presence of C-27 was decreased, but there was no effect on the size distribution. Both the amt. and the size of the product were decreased in the presence of AF-013, suggesting an effect on chain elongation as well as initiation. Kinetic evidence indicated that AF/DNFI had a mode of action similar to that of AF-013. All 3 derivs. appeared to inhibit the viral enzyme with a strong cooperative interaction. However, when the initial rate of polymn. measured at different drug concns. was analyzed according to Hill, different plots were obsd. A straight line with a slope of 6.4 was obtained in the presence of C-27, and a biphasic plot with n values of 2.2 and 6.2 was obsd. with AF/DNFI, with the change in slope occurring at 65% inhibition. The results are discussed in terms of different mechanisms of interaction of rifamycin SV derivs. with the viral **DNA** polymerase.

L50 ANSWER 24 OF 32 MEDLINE
ACCESSION NUMBER: 79199272 MEDLINE
DOCUMENT NUMBER: 79199272 PubMed ID: 88006
TITLE: [Immunologic aspects of preparation of antiserum to the **reverse transcriptase** from **avian myeloblastosis virus**].
Immunologicheskie aspekty polucheniia antisyvorotki k

obratnoi transkriptaze (revertaze) virusa mieloblastoza ptits.
AUTHOR: Graevskaia N A; Sito A F
SOURCE: MOLEKULIARNAIA BIOLOGIIA, (1976 May-Jun) 10 (2) 652-6. Journal code: NGX; 0105454. ISSN: 0026-8984.
PUB. COUNTRY: USSR
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Russian
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197908
ENTRY DATE: Entered STN: 19900315
Last Updated on STN: 19970203
Entered Medline: 19790829

AB After immunization of rabbits the antiserum was prepared against **purified reverse transcriptase** (revertase) from **avian myeloblastosis virus** (**AMV**). The antiserum demonstrated enzymeneutralizing antibody activity that was associated with ummunoglobulin G fraction but not with IgM. The high antigenicity of **AMV** revertase for rabbits was shown. The active antiserum was obtained after 4 immunizations of rabbit with approximately 20 microgram of the enzyme. Non-specific revertase inhibitors were found in normal rabbit serum, which were absent in IgG fraction from this serum. The revertase activity of Rauscher leukemia virus (RLV) and Visna virus was not neutralized by antisera against **AMV** polymerase. This work was supported by the project "Revertase".

L50 ANSWER 25 OF 32 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 77072388 EMBASE
DOCUMENT NUMBER: 1977072388
TITLE: Further **characterization** of the friend murine leukemia virus **reverse transcriptase** RNase H complex.
AUTHOR: Moelling K.
CORPORATE SOURCE: Inst. Virol., Bereich Hum. Med., Justus Liebig Univ., Giessen, Germany
SOURCE: Journal of Virology, (1976) 18/2 (418-425). CODEN: JOVIAM
DOCUMENT TYPE: Journal
FILE SEGMENT: 016 Cancer
022 Human Genetics
025 Hematology
LANGUAGE: English

AB The **purified reverse transcriptase** RNase H complex from Friend murine leukemia virus consists of a single polypeptide of 84,000 molecular weight, which after mild protease treatment in vitro or after intentional degradation during the purification procedure allows the generation of several additional polypeptides. Degradation destroys the **RNA** dependent **DNA** polymerase activity with native **RNA** templates and reduces RNase H but does not affect response to synthetic template primers such as poly(rA).oligo(dT). The properties of the intact murine enzyme consisting of a single polypeptide of 84,000 molecular weight are compared to those of the avian .alpha. subunit and the avian .alpha..beta. enzyme complex. The intact murine enzyme resembles the avian .beta. containing enzyme complex and is different from .alpha. in the following respects: (i) it binds to native **RNA** templates; (ii) it transcribes native **RNA** templates into **DNA**, a reaction which can be inhibited by actinomycin D; (iii) RNase H activity behaves like a processive exonuclease; and (iv) analysis of the RNase H digestion products reveals oligonucleotides approximately four bases in length.

L50 ANSWER 26 OF 32 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 15
ACCESSION NUMBER: 1976:101063 CAPLUS
DOCUMENT NUMBER: 84:101063
TITLE: Reverse transcription of a plant viral **RNA**
AUTHOR(S): Kiselev, L. L.; Haenni, Anne L.; Chapeville, Francois
CORPORATE SOURCE: Inst. Biol. Mol., Univ. Paris VII, Paris, Fr.
SOURCE: FEBS Lett. (1976), 62(1), 64-8 CODEN: FEBLAL
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Complementary (to cowpea mosaic virus **RNA**) **DNA** (**cDNA**) was prepd. by the reverse transcription of virion **RNA** with **reverse transcriptase** **purified** from **avian myeloblastosis virus** and with oligo(dT) as primer. Both Mg2+ and oligo(dT) were absolutely essential for **cDNA** formation. By sucrose d. gradient centrifugation, 2 fractions of **cDNA** were recovered; the lighter fraction had a sedimentation coeff. of 5.5-6 S whereas the heavier fraction was >16 S. Electrophoresis in HCONH2 preceded by heating to 90.degree. indicated that the heavier fraction actually consisted of 9-16 S **DNA** mols. which apparently aggregate to form heavier complexes. Based on hybridization studies with viral **RNA**, the **cDNA** is truly complementary to cowpea mosaic virus **RNA**. Self-hybridization followed by nuclease treatment indicated that the **cDNA** mols. contain some elements of secondary structure.

L50 ANSWER 27 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1976:102128 CAPLUS
DOCUMENT NUMBER: 84:102128
TITLE: Role of **reverse transcriptase** in the life cycle of **RNA** tumor viruses
AUTHOR(S): Verma, Inder M.; Gibson, Wade
CORPORATE SOURCE: Tumor Virol. Lab., Salk Inst., San Diego, Calif., USA
SOURCE: ICN-UCLA Symp. Mol. Cell. Biol. (1975), 3(DNA Synth. Its Regul.), 730-52
CODEN: IUSMDJ
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Purified **DNA** polymerase (**reverse transcriptase**) **isolated** from 2 temp.-sensitive mutants of Rous sarcoma virus (RSV), LA337 and LA335, with defects in very early events of the virus growth cycle are more thermolabile than the **DNA** polymerase from the wild-type parent. Furthermore, **isolated** small subunit .alpha. from LA337, manifesting both polymerase and RNase H activities, is 5-7-fold more thermolabile than the **isolated** .alpha. subunit from the wild-type parent. Thus it appears that **reverse transcriptase** is required to establish infection and at least the .alpha. subunit is coded for by the viral **RNA**. **Reverse transcriptase** from **avian myeloblastosis virus** (**AMV**) and RSV, in vitro radiolabeled with 125I, was subjected to Na dodecyl sulfate-polyacrylamide gel electrophoresis to sep. the 2 subunits. The tryptic hydrolyzates of the .alpha. and .beta. subunits were compared by 2-dimensional fingerprinting techniques. The results indicate that .beta. and .alpha. subunits from both **AMV** and RSV are structurally related. The possible mechanism of synthesis of .alpha. and .beta. and the role of .beta. subunits is discussed.

L50 ANSWER 28 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1975:423682 CAPLUS
DOCUMENT NUMBER: 83:23682
TITLE: Synthesis and properties of globin **mRNA** -complementary **DNA**
AUTHOR(S): Kavsan, V. M.; Ryndich, A. V.; Graevskaya, N. A.; Bibilashvili, R. Sh.; Kok, I. P.; Gershenson, S. M.
CORPORATE SOURCE: Inst. Mol. Biol. Genet., Kiev, USSR
SOURCE: Dopov. Akad. Nauk Ukr. RSR, Ser. B (1975), (3), 264-8
CODEN: DBGGAM
DOCUMENT TYPE: Journal
LANGUAGE: Ukrainian
AB Using **avian myeloblastosis virus DNA** polymerase (**reverse transcriptase**) **isolated** from chicken plasma and purified by ion exchange chromatog. on DEAE- and phosphocellulose columns, it was possible to synthesize in vitro a **DNA** copy having a mol. wt. similar to that of globin **mRNA** .

L50 ANSWER 29 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1976:175857 CAPLUS
DOCUMENT NUMBER: 84:175857
TITLE: Properties and origin of the subunits of **reverse transcriptase**

isolated from avian **RNA** tumor viruses

AUTHOR(S): Panet, A.; Verma, I. M.; Baltimore, D.

CORPORATE SOURCE: Cent. Cancer Res., Massachusetts Inst. Technol., Cambridge, Mass., USA

SOURCE: Fundam. Aspects Neoplasia, Proc. Symp. (1975), Meeting Date 1974, 257-68. Editor(s): Gottlieb, Abraham Arthur; Plescia, Otto J.; Bishop, David H. L. Springer: New York, N. Y.
CODEN: 32XQAG

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The subunit functions of **reverse transcriptase** from avian **RNA** tumor viruses were studied. The smaller subunit of the **avian myeloblastosis virus** enzyme catalyzes all 3 enzymic activities of the holoenzyme: (1) copying **RNA** into **DNA**, (2) copying **DNA** into double-stranded **DNA**, (3) RNase H. However, both protection against thermal denaturation and **DNA**-cellulose chromatog. indicate that the affinity of the smaller subunit for the template-primer is lower than that of the holoenzyme. The smaller subunit from a temp.-sensitive mutant of Rous sarcoma virus **reverse transcriptase** is 5-7 times more thermolabile than the wild-type subunit. Thus, this subunit is encoded by the viral **RNA** since it retains the temp. sensitivity of the holoenzyme.

L50 ANSWER 30 OF 32 MEDLINE DUPLICATE 16

ACCESSION NUMBER: 75097707 MEDLINE

DOCUMENT NUMBER: 75097707 PubMed ID: 46281

TITLE: Studies on **reverse transcriptase** of **RNA** tumor viruses. I. Localization of thermolabile **DNA** polymerase and RNase H activities on one polypeptide.

AUTHOR: Verma I M

SOURCE: JOURNAL OF VIROLOGY, (1975 Jan) 15 (1) 121-6.
Journal code: KCV; 0113724. ISSN: 0022-538X.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 197505

ENTRY DATE: Entered STN: 19900310
Last Updated on STN: 19970203
Entered Medline: 19750513

AB **Purified reverse transcriptase** from **avian myeloblastosis virus** or Rous sarcoma virus consists of two subunits of average mol wt of 100,000 and 60,000. The lower-molecular-weight subunit, alpha, has been **isolated** from **avian myeloblastosis virus**, Rous sarcoma virus and a temperature-sensitive mutant of Rous sarcoma virus, LA337. Subunit alpha manifests both the **DNA** polymerase and RNase H activities associated with **purified reverse transcriptase** of avian **RNA** tumor viruses. The thermal inactivation of these enzymatic activities of alpha subunit from the wild-type virus. The results show that both **DNA** polymerase and RNase H activities associated with the alpha subunit of LA337 are five to seven times more thermolabile then the corresponding alpha subunit from the wild-type virus. It is concluded that (i) both the polymerase and nuclease activities reside on the same polypeptide chain, and (ii) at least the lower-molecular-weight subunit alpha is coded for by the viral **RNA**.

L50 ANSWER 31 OF 32 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1975:135324 CAPLUS

DOCUMENT NUMBER: 82:135324

TITLE: **Reverse transcriptase** of **RNA** tumor viruses. II. Structural relatedness of two subunits of avian **RNA** tumor viruses

AUTHOR(S): Gibson, Wade; Verma, Inder M.

CORPORATE SOURCE: Tumor Virol. Lab., Sak Inst., San Diego, Calif., USA

SOURCE: Proc. Natl. Acad. Sci. U. S. A. (1974), 71(12), 4991-4
CODEN: PNASA6
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The structural relation of the small (.alpha.) and large (.beta.) subunits of **reverse transcriptase isolated** from 2 avian **RNA** tumor viruses has been examd. by tryptic peptide anal. Comparison of the tryptic hydrolyzates of the **isolated** subunits by 2-dimensional sepn. on thin-layer cellulose plates indicates that (a) the .alpha. subunit of **reverse transcriptase** of **avian myeloblastosis virus** is structurally related to the .beta. subunit; (b) the .alpha. and .beta. subunits of the enzyme of Rous sarcoma virus also appear to be related; and (c) there appears to be an extensive amino-acid sequence homology between **reverse transcriptases** of **avian myeloblastosis virus** and Rous sarcoma virus. Evidence is also presented that both .alpha. and .beta. subunits can be identified in purified avian myeloblastosis virions.

L50 ANSWER 32 OF 32 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1972:497929 CAPLUS
DOCUMENT NUMBER: 77:97929
TITLE: Inhibition of **reverse transcriptase** by high concentrations of tritium-labeled substrates
AUTHOR(S): Harrison, P. R.; Hell, Anna; Paul, J.
CORPORATE SOURCE: Beatson Inst. Cancer Res., Glasgow, Scot.
SOURCE: FEBS (Fed. Eur. Biochem. Soc.) Lett. (1972), 24(1), 73-6
CODEN: FEBLAL
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Previous studies indicated that the **RNA**-dependent **DNA** polymerase (**reverse transcriptase**) **isolated** from **avian myeloblastosis virus** may be used to obtain **DNA** copies of 9S **RNA** from reticulocytes. The present study describes evidence indicating that **reverse transcriptase** is inhibited by incubation with deoxyribonucleoside triphosphates in which the total amt. of radioactivity is very high, and that the **DNA** copy obtained under these conditions is much shorter than that obtained with lower concns. of radioisotope. It is further shown that this problem can be overcome by the addn. of certain proteins to the incubation mixt. The **reverse transcriptase** itself may be inhibited by certain radioactive solns.

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=> file .nash
=> s l28 and reverse transcriptase
TOTAL FOR ALL FILES
L65       2508 L28 AND REVERSE TRANSCRIPTASE

=> s l28 and clon? (10w) reverse transcriptase
TOTAL FOR ALL FILES
L72          8 L28 AND CLON? (10W) REVERSE TRANSCRIPTASE

=> dup rem l72
PROCESSING COMPLETED FOR L72
L73           8 DUP REM L72 (0 DUPLICATES REMOVED)

=> d ibib abs 1-8

L73 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER:        2001:886488 CAPLUS
DOCUMENT NUMBER:         136:32693
TITLE:                   Modified or mutated reverse
                         transcriptases with high thermostability and
                         uses thereof
INVENTOR(S):             Smith, Michael D.; Potter, Robert Jason; Dhariwal,
                         Gulshan; Gerard, Gary F.; Rosenthal, Kim
PATENT ASSIGNEE(S):      Invitrogen Corp., USA
SOURCE:                  PCT Int. Appl., 103 pp.
```

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001092500	A1	20011206	WO 2001-US16861	20010525

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-207196P P 20000526
US 2001-845157 A 20010501
US 2001-808124 A 20010515

AB The present invention provides modified **reverse transcriptases** with increasing thermostability. The invention is generally related to **reverse transcriptase** enzymes and methods for the reverse transcription of nucleic acid mols., esp. **mRNA** mols. Specifically, the invention relates to **reverse transcriptase** enzymes which have been mutated or modified to increase thermostability, decrease terminal deoxynucleotidyl transferase activity, and/or increase fidelity, and to methods of producing, amplifying or sequencing nucleic acid mols. (particularly **cDNA** mols.) using these **reverse transcriptase** enzymes or compns. The invention also relates to nucleic acid mols. produced by these methods and to the use of such nucleic acid mols. to produce desired polypeptides. The invention also concerns kits comprising such enzymes or compns.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L73 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:693553 CAPLUS
DOCUMENT NUMBER: 135:268170
TITLE: High fidelity **reverse transcriptases** which have been modified or mutated and uses thereof
INVENTOR(S): Potter, Robert Jason; Rosenthal, Kim
PATENT ASSIGNEE(S): Invitrogen Corporation, USA
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001068895	A1	20010920	WO 2001-US8105	20010315

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-189454P P 20000315

AB The invention relates to **reverse transcriptases** which have increased fidelity (or reduced misincorporation rate) and/or terminal deoxynucleotidyl transferase activity. In particular, the invention relates to a method of making such **reverse transcriptases** by modifying or mutating specified positions in the **reverse transcriptases**. The invention also relates to

nucleic acid mols. contg. the **genes** encoding the **reverse transcriptases** of the invention, to host cells contg. such nucleic acid mols. and to methods to make the **reverse transcriptases** using the host cells. The **reverse transcriptases** of the invention are particularly suited for nucleic acid synthesis, sequencing, amplification and **cDNA** synthesis.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L73 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:709090 CAPLUS
DOCUMENT NUMBER: 129:327725
TITLE: Avian sarcoma-leukosis virus **reverse transcriptases** with improved properties for use in reverse transcription, amplification and sequencing
INVENTOR(S): Gerard, Gary F.; Smith, Michael D.; Chatterjee, Deb K.
PATENT ASSIGNEE(S): Life Technologies, Inc., USA
SOURCE: PCT Int. Appl., 201 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9847912	A1	19981029	WO 1998-US8072	19980422
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9873601	A1	19981113	AU 1998-73601	19980422
EP 1005481	A1	20000607	EP 1998-920859	19980422
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001523098	T2	20011120	JP 1998-546292	19980422

PRIORITY APPLN. INFO.:
US 1997-44589P P 19970422
US 1997-49874P P 19970617
WO 1998-US8072 W 19980422

AB The title **reverse transcriptases** comprise a mixt. of two or more proteins with **reverse transcriptase** activity, one or both having reduced RNase H activity, and each exhibiting a different transcription pause site. These compns. may be used for prodn. of **cDNAs** as well as for nucleic acid amplication and sequencing. The modified **reverse transcriptases** may be produced with recombinant cells. Thus, greater yields of total and full-length **cDNA** product using a 7.5-kb **mRNA** was obtained when two different RNase H- **reverse transcriptases** were combined than when each was used sep. in the wild-type or RNase H- form. The two **reverse transcriptases** used were from Rous sarcoma virus and from Moloney murine leukemia virus. It was also noted that the Rous sarcoma virus RNase H- enzyme was more thermostable than the wild-type enzyme. Other expts. indicated that the combination of RNase H- .alpha. subunit with RNase H+ .beta. subunit was more thermostable than other combinations of RNase H.+-. subunits.

L73 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:620254 CAPLUS
DOCUMENT NUMBER: 127:303783
TITLE: Synthesis of full-length potyvirus **cDNA** copies suitable for the analysis of genome polymorphism
AUTHOR(S): Chachulska, Anna Maria; Fakhfakh, Hatem; Robaglia, Christophe; Granier, Fabienne; Zagorski, Wlodzimierz;

Vilaine, Francoise
CORPORATE SOURCE: Inst. Biochem. and Biophysics, Warsaw, 02-106, Pol.
SOURCE: J. Virol. Methods (1997), 67(2), 189-197
CODEN: JVMEDH; ISSN: 0166-0934
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB New methods facilitating the synthesis and amplification of full-length **cDNA** copies of single-stranded viral **RNA** genomes have been developed. A method is described for the efficient purifn. of potyviral **RNA** and total **RNA** from infected plants and it is shown that they can serve as templates for the efficient synthesis of a full-length, 10 kb long, genomic **cDNA**. Two different **reverse transcriptases** were used (**AMV**-RT and MMLV-RT); only the first **reverse transcriptase** produced a good quality, full-length **cDNA** using viral **RNA** as a template. Surprisingly, MMLV-RT allowed for the full-length **cDNA** synthesis on virions rather than viral **RNA**. The PVY **cDNA**, synthesized using either **RNA** or virions, can be amplified successfully by PCR with high yields of full-length products. Such products are good substrates for the study by RFLP of the total genome polymorphism of virus isolates.

L73 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:402403 CAPLUS
DOCUMENT NUMBER: 115:2403
TITLE: Chimeric **cDNA clones**: a novel PCR artifact
AUTHOR(S): Brakenhoff, Ruud H.; Schoenmakers, John G. G.; Lubsen, Nicolette H.
CORPORATE SOURCE: Dep. Mol. Cell. Biol., Univ. Nijmegen, Nijmegen, 6525 ED, Neth.
SOURCE: Nucleic Acids Res. (1991), 19(8), 1949
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English
AB During the **cloning** of a transcript of one member of a closely related **gene** family, the human .gamma.-crystallin **gene** family, a novel artifact of the polymerase chain reaction was encountered: the formation of chimeric **cDNA** mols. The exptl. strategy in **cloning** the human .gamma.E-crystallin transcript was a common one: first strand **cDNA** synthesis on human lens **RNA** using **AMV reverse transcriptase** and a .gamma.E specific primer followed by PCR with the same .gamma.E specific primer as reverse primer and a common .gamma.-crystallin forward primer. Sequencing of 3 of these **clones**, revealed that 2 were chimeric, switching from either the .gamma.C or .gamma.D sequence to the .gamma.E sequence in exon 3. These chimeric sequences could have resulted from somatic recombination or trans-splicing but are more likely an exptl. artifact. Since the chimeric **clones** end with .gamma.E sequence, the initial reverse transcription reaction must have been specific for the .gamma.E transcript. However, reverse transcription often yielded prematurely terminated .gamma.E cCNAs. Thus, such partial .gamma.E **cDNAs** could have hydridized to the .gamma.C or .gamma.D transcripts (which are 10 or 25 fold, resp., more abundant that the .gamma.E transcript) and served as primer for reverse transcription by Taq polymerase. As the 5' PCR primer fits the .gamma.C and .gamma.D sequences as well, such chimeric mols. would have been amplified in the PCR reaction. To test this hypothesis RNase A treatment after first strand synthesis was included. Five of five recombinant **clones** contained the correct .gamma.E transcript and no chimeric **clones** were found. Thus, the synthesis of the chimeric **cDNA clone** is a PCR artifact caused by the **reverse transcriptase** activity of Taq polymerase. Hence, this **reverse transcriptase** activity is actually a drawback rather than an advantage during **cDNA cloning**.

L73 ANSWER 6 OF 8 LIFESCI COPYRIGHT 2002 CSA
ACCESSION NUMBER: 89:37641 LIFESCI
TITLE: Nucleotide sequence of genomic segment 2 of the human rotavirus Wa.

AUTHOR: Ernst, H.; Duhl, J.A.
CORPORATE SOURCE: Dep. Clin. Virol., James N. Gamble Inst. Med. Res., 2141 Auburn Ave., Cincinnati, OH 45219, USA
SOURCE: NUCLEIC ACIDS RES., (1989) vol. 17, no. 11, p. 4382.
DOCUMENT TYPE: Journal
FILE SEGMENT: N; G; V
LANGUAGE: English
SUMMARY LANGUAGE: English

AB A **cDNA clone** of human rotavirus Wa **gene** 2 was isolated from a pBR322 library and its nucleotide sequence determined by the dideoxy chain termination method. The sequence of 15 bases at the 5'-terminus of the **gene** which are missing in the **cDNA clone** was determined by primer extension of Wa **mRNA** with **AMV reverse transcriptase**. The Wa segment 2 is 2717 base pairs long and contains one long open reading frame (bases 17-2686) of 890 amino acids, coding for a polypeptide of 103,760 MW. The first ATG, however, is not in an optimal context for a strong initiation signal according to Kozak's rules.

L73 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:199136 CAPLUS
DOCUMENT NUMBER: 108:199136
TITLE: **Cloning** and expression of Rous sarcoma virus **reverse transcriptase** in Escherichia coli
AUTHOR(S): Mel'nikov, A. A.; Molnar, J.; Horvath, P.; Fodor, I.
CORPORATE SOURCE: Inst. Biokhim. Fiziol. Mikroorg., Pushchino, USSR
SOURCE: Dokl. Akad. Nauk SSSR (1988), 299(2), 486-9 [Genet.] CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The Rous sarcoma virus **gene** pol, corresponding to the sequence encoding the **reverse transcriptase** .beta. subunit in eukaryotic cells, was **cloned** in plasmid pUC9 to give recombinant plasmid pMF14. Similarly, a BglII restriction fragment of **gene** pol corresponding to the sequence encoding the .alpha. subunit in eukaryotic cells, was subcloned to give recombinant plasmid pMM6. When these were placed under the control of the lacI repressor and used to transform Escherichia coli, regulated expression of **DNA** polymg. activity was obtained. The proteolytic activity of .beta..beta. dimer enzyme is known to be greater than that of .alpha..alpha. dimer enzyme, thus, the enzyme encoded by pMF14-transformed cells was selected for purifn. and further characterization. The isolated, **cloned** enzyme had an activity similar to that of **reverse transcriptase** from **AMV** virus and poly rA/oligo dT substrate was preferred to activated **DNA**. The calcd. mol. wt. of **cloned** enzyme corresponded to that reported for viral enzyme and **cloned** enzyme synthesized **cDNA** of .apprx.7000 bases.

L73 ANSWER 8 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1982:164640 BIOSIS
DOCUMENT NUMBER: BA73:24624
TITLE: **CLONING** A COMPLEMENTARY **DNA** FOR THE PRO ALPHA-2 CHAIN OF HUMAN TYPE I COLLAGEN.
AUTHOR(S): MYERS J C; CHU M-L; FARO S H; CLARK W J; PROCKOP D J; RAMIREZ F
CORPORATE SOURCE: DEP. BIOCHEM., COLL. MED. AND DENTISTRY OF NEW JERSEY, RUTGERS MED. SCH., PISCATAWAY, NEW JERSEY 08854.
SOURCE: PROC NATL ACAD SCI U S A, (1981) 78 (6), 3516-3520. CODEN: PNASA6. ISSN: 0027-8424.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Poly(A)-**RNA** enriched for type I procollagen sequences was isolated from normal human fibroblasts and used as template to synthesize double-stranded c(complementary)**DNA** with **avian myeloblastosis virus** (**AMV**) **reverse transcriptase**. After the ends had been blunted with nuclease S1 and dGMP tails had been added with terminal deoxynucleotidyltransferase, the double-stranded **cDNA** was annealed with pBR322 **DNA** that had previously been cleaved with EcoRI, blunted with **AMV**

reverse transcriptase and dCMP-tailed with terminal deoxynucleotidyltransferase. The chimeric molecule was used to transform Escherichia coli strain HB101. Ninety-five recombinant **clones** were obtained and screened by dot hybridization analysis using 32P-labeled **cDNA** synthesized from the original poly(A)-**RNA** collagen-enriched population. Three positive **clones** were isolated and further characterized by blot hybridization techniques and by EcoRII digestion. One **clone** with an insert of 2.2 kilobases contained sequences encoding for the pro-.alpha.2 chain of human type I procollagen. **DNA** sequence analysis of a 172-nucleotide fragment demonstrated that the **cloned cDNA** extends from amino acid position 450 of the .alpha.2 chain to the middle of the COOH-terminal propeptide.

```
=> s l28 and cod? (10w) reverse transcriptase
L74          1 FILE MEDLINE
L75          0 FILE CAPLUS
L76          0 FILE SCISEARCH
L77          0 FILE LIFESCI
L78          2 FILE BIOSIS
L79          1 FILE EMBASE

TOTAL FOR ALL FILES
L80          4 L28 AND COD? (10W) REVERSE TRANSCRIPTASE

=> dup rem l80
PROCESSING COMPLETED FOR L80
L81           2 DUP REM L80 (2 DUPLICATES REMOVED)

=> d ibib abs

L81  ANSWER 1 OF 2     MEDLINE                          DUPLICATE 1
ACCESSION NUMBER:    90343054     MEDLINE
DOCUMENT NUMBER:     90343054    PubMed ID: 1696437
TITLE:               Low-ratio hybridization subtraction.
AUTHOR:              Fargnoli J; Holbrook N J; Fornace A J Jr
CORPORATE SOURCE:    Laboratory of Molecular Genetics, NIA, NIH, Baltimore,
                     Maryland 21224.
SOURCE:              ANALYTICAL BIOCHEMISTRY, (1990 Jun) 187 (2) 364-73.
                     Journal code: 4NK; 0370535. ISSN: 0003-2697.
PUB. COUNTRY:        United States
                     Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:            English
FILE SEGMENT:        Priority Journals
ENTRY MONTH:         199009
ENTRY DATE:          Entered STN: 19901012
                     Last Updated on STN: 19960129
                     Entered Medline: 19900913
```

AB A hybridization subtraction protocol that uses low ratios of **RNA** to **cDNA** has been developed to enrich for the **cDNA** of transcripts that are elevated in one cell population relative to another. This low-ratio hybridization subtraction protocol was found to yield substantial enrichment for the **cDNA** of low-abundance transcripts induced or increased only several fold. Conditions for the **cloning** of **cDNA** enriched by our hybridization subtraction and identification of **clones** coding for induced transcripts are presented. By screening the **cDNA** library with probes synthesized from the starting **cDNA** and **cDNA** enriched by low-ratio hybridization subtraction, **clones coding** for induced transcripts could be efficiently identified. The choice of **reverse transcriptase** used to synthesize the **cDNA** was found to be important for the enrichment of **cDNA** for longer length **RNA**. Low-ratio hybridization subtraction of **cDNA** synthesized with MMLV **reverse transcriptase** was effective for the enrichment of **cDNA** coding for **RNA** to at least 5 kb in length, while the **AMV** enzyme was effective only for the **cDNA** of shorter **RNA** (less than 1 kb). The characterization of several different low-ratio hybridization subtraction libraries is presented, and the advantages and disadvantages of various hybridization subtraction strategies are discussed.

=> d 2 ibib abs

L81 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1990:131422 BIOSIS
DOCUMENT NUMBER: BA89:70233
TITLE: DETERMINATION OF 5' AND 3' NUCLEOTIDE SEQUENCE OF THE **AMV**-1 VIRUS **REVERSE TRANSCRIPTASE GENE**.
AUTHOR(S): SHAGUN S V; KOVAL' A P; KAVSAN V M
CORPORATE SOURCE: INST. MOL. BIOL. GENET., ACAD. SCI. UKR. SSR, KIEV, USSR.
SOURCE: BIOPOLIM KLETKA, (1989) 5 (5), 75-80.
CODEN: BIKLEK. ISSN: 0233-7657.
FILE SEGMENT: BA; OLD
LANGUAGE: Russian
AB The nucleotide sequences of 5'-, and 3'-terminal parts of **AMV**-1 pol **gene** are determined. 94.6% homology between RSV and **AMV**-1 **reverse transcriptase genes** has been established. Only 15 base pairs from the sequencing regions differ from the corresponding RSV sequence. Six of them determine amino acids substitutions. The asparagin appearance in position 15 of the **AMV**-1 reverse transcripts is in accordance with the previous data on protein. This observation may serve as an evidence, that the **AMV**-1 pol **gene codes** for **reverse transcriptase** of **AMV**-complex.

=> log y

WEST Search History

DATE: Friday, April 19, 2002

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,EPAB; PLUR=YES; OP=ADJ		
L8	L6 and (avian myeloblastoses virus or amv)	36	L8
L7	L6 and avian myeloblastoses virus	0	L7
L6	L5 and reverse transcriptase	237	L6
L5	((435/194)!.CCLS.)	921	L5
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L4	L3 and (gene or nucleic acid or dna or cdna or rna or mrna)	1760	L4
L3	(avian myeloblastosis virus or amv)same reverse transcriptase	1770	L3
L2	(avian myeloblastosis virus or amv) and reverse transcriptase	1897	L2
L1	(avian myeloblastosis virus) and reverse transcriptase	656	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 10 of 36 returned.

1. Document ID: US 20020040130 A1

L8: Entry 1 of 36 File: PGPB Apr 4, 2002

PGPUB-DOCUMENT-NUMBER: 20020040130
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020040130 A1

TITLE: Polymorphic kinase anchor proteins and nucleic acids encoding the same

PUBLICATION-DATE: April 4, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Braun, Andreas	San Diego	CA	US	

US-CL-CURRENT: 536/23.1; 435/194, 435/325, 435/6, 435/69.1, 435/7.92, 536/23.2, 800/18

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

2. Document ID: US 20020012969 A1

L8: Entry 2 of 36 File: PGPB Jan 31, 2002

PGPUB-DOCUMENT-NUMBER: 20020012969
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020012969 A1

TITLE: METHOD OF QUANTIFYING TUMOUR CELLS IN A BODY FLUID AND A SUITABLE TEST KIT

PUBLICATION-DATE: January 31, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
DAHM, MICHAEL W.	MUNCHEN		DE	

US-CL-CURRENT: 435/91.1; 435/194, 435/91.2, 536/24.3, 536/24.33

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

3. Document ID: US 6331621 B1

L8: Entry 3 of 36 File: USPT Dec 18, 2001

US-PAT-NO: 6331621

DOCUMENT-IDENTIFIER: US 6331621 B1

TITLE: Isolated nucleic acid molecules which encode activin-receptor like kinases, expression vectors and cells containing these

DATE-ISSUED: December 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miyazono; Kohei	Uppsala			SEX
ten Dijke; Peter	Uppsala			SEX
Franzen; Petra	Uppsala			SEX
Yamashita; Hidetoshi	Uppsala			SEX
Heldin; Carl-Henrik	Uppsala			SEX

US-CL-CURRENT: 536/23.2; 435/194, 435/252.1, 435/320.1, 435/325, 435/69.1, 530/350, 530/357

ABSTRACT:

The invention involves nucleic acid molecules which encode activin like kinases, expression vectors, and cell lines.

10 Claims, 14 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

☐ 4. Document ID: US 6326469 B1

L8: Entry 4 of 36 File: USPT Dec 4, 2001

US-PAT-NO: 6326469
DOCUMENT-IDENTIFIER: US 6326469 B1

TITLE: Megakaryocytic protein tyrosine kinases

DATE-ISSUED: December 4, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ullrich; Axel	Portola Valley	CA		
Gishizky; Mikhail	Palo Alto	CA		
Sures; Irmingard	Munich			DEX

US-CL-CURRENT: 530/350; 435/194, 435/69.1, 435/69.7

ABSTRACT:

The present invention relates to novel cytoplasmic tyrosine kinases isolated from megakaryocytes (megakaryocyte kinases or MKKs) which are involved in cellular signal transduction pathways and to the use of these novel proteins in the diagnosis and treatment of disease. The present invention further relates to specific megakaryocyte kinases, designated MKK1, MKK2 and MKK3, and their use as diagnostic and therapeutic agents.

11 Claims, 22 Drawing figures
Exemplary Claim Number: 1

Number of Drawing Sheets: 26

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 5. Document ID: US 6312934 B1

L8: Entry 5 of 36 File: USPT Nov 6, 2001

US-PAT-NO: 6312934
DOCUMENT-IDENTIFIER: US 6312934 B1

TITLE: Human MEKK proteins, corresponding nucleic acid molecules, and uses therefor

DATE-ISSUED: November 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Johnson; Gary L.	Boulder	CO		

US-CL-CURRENT: 435/194; 435/252.3, 435/320.1, 435/325, 435/6, 536/23.2

ABSTRACT:

Isolated nucleic acid molecules encoding human MEKK proteins, and isolated MEKK proteins, are provided. The invention further provides antisense nucleic acid molecules, recombinant expression vectors containing a nucleic acid molecule of the invention, host cells into which the expression vectors have been introduced and nonhuman transgenic animals carrying a human MEKK transgene. The invention further provides human MEKK fusion proteins and anti-human MEKK antibodies. Methods of using the human MEKK proteins and nucleic acid molecules of the invention are also disclosed, including methods for detecting human MEKK activity in a biological sample, methods of modulating human MEKK activity in a cell, and methods for identifying agents that modulate the activity of human MEKK.

29 Claims, 35 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 35

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 6. Document ID: US 6242235 B1

L8: Entry 6 of 36 File: USPT Jun 5, 2001

US-PAT-NO: 6242235
DOCUMENT-IDENTIFIER: US 6242235 B1

TITLE: Polymerase stabilization by polyethoxylated amine surfactants

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shultz; John W.	Verona	WI		
Huang; Fen	Madison	WI		

US-CL-CURRENT: 435/194; 435/188

ABSTRACT:

The present invention provides methods and compositions for protein stabilization, particularly the stabilization of polymerases in aqueous solutions with cationic surfactants. The present invention further provides cationic surfactants, including polyethoxylated amines, that stabilize thermostable and thermolabile enzymes in solution. These surfactants stabilize the activity of various enzymes, including thermostable DNA polymerases, thermolabile DNA polymerases and reverse transcriptases.

23 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 7. Document ID: US 6207814 B1

L8: Entry 7 of 36 File: USPT Mar 27, 2001

US-PAT-NO: 6207814
DOCUMENT-IDENTIFIER: US 6207814 B1

TITLE: Activin receptor-like kinases, ALK-3 and ALK-6, and nucleic acids encoding them

DATE-ISSUED: March 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miyazono; Kohei	Uppsala			SEX
ten Dijke; Peter	Uppsala			SEX
Franzen; Petra	Uppsala			SEX
Yamashita; Hidetoshi	Uppsala			SEX
Heldin; Carl-Henrik	Uppsala			SEX

US-CL-CURRENT: 536/23.5; 435/194, 530/350

ABSTRACT:

The invention relates to two members of the receptor family referred to as activin-like kinases. These two members are referred to as ALK-3 and ALK-6. The proteins have activin/TGF-.beta. type I receptor functionality, and may have a serine/threonine kinase domain, a DFKSRN or DLKSKN sequence in subdomain V1B, and/or a GTKRYM sequence in subdomain VIII.

5 Claims, 14 Drawing figures
Exemplary Claim Number: 1,3
Number of Drawing Sheets: 10

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 8. Document ID: US 6197563 B1

L8: Entry 8 of 36 File: USPT Mar 6, 2001

US-PAT-NO: 6197563
DOCUMENT-IDENTIFIER: US 6197563 B1

TITLE: Kits for amplifying and detecting nucleic acid sequences

DATE-ISSUED: March 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Erlich; Henry A.	Oakland	CA		
Horn; Glenn	Emeryville	CA		
Saiki; Randall K.	Richmond	CA		
Mullis; Kary B.	La Jolla	CA		
Gelfand; David H.	Oakland	CA		

US-CL-CURRENT: 435/194; 435/91.2, 536/23.1

ABSTRACT:

The present invention is directed to a process for amplifying any target nucleic acid sequence contained in a nucleic acid or mixture thereof using a thermostable enzyme. The process comprises treating separate complementary strands of the nucleic acid with a molar excess of two oligonucleotide primers, extending the primers with a thermostable enzyme to form complementary primer extension products which act as templates for synthesizing the desired nucleic acid sequence, and detecting the sequence so amplified. The steps of the reaction can be repeated as often as desired and involve temperature cycling to effect hybridization, promotion of activity of the enzyme, and denaturation of the hybrids formed.

18 Claims, 0 Drawing figures
Exemplary Claim Number: 1

☐ 9. Document ID: US 6183967 B1

L8: Entry 9 of 36 File: USPT Feb 6, 2001

US-PAT-NO: 6183967
DOCUMENT-IDENTIFIER: US 6183967 B1

TITLE: Nucleic acid ligand inhibitors to DNA polymerases

DATE-ISSUED: February 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jayasena; Sumedha	Boulder	CO		
Gold; Larry	Boulder	CO		

US-CL-CURRENT: 435/6; 435/194, 435/91.2, 536/23.1, 536/25.4

ABSTRACT:

This invention discloses high-affinity oligonucleotide ligands to the thermostable Taq polymerase, Tth polymerase and TZ05 polymerase. Specifically, this invention discloses DNA ligands having the ability to bind to the Taq, Tth and TZ05 polymerases and the methods for obtaining such ligands. The ligands are capable of inhibiting polymerases at any predetermined temperature.

21 Claims, 82 Drawing figures
Exemplary Claim Number: 1

Number of Drawing Sheets: 40

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 10. Document ID: US 6140086 A

L8: Entry 10 of 36 File: USPT Oct 31, 2000

US-PAT-NO: 6140086
DOCUMENT-IDENTIFIER: US 6140086 A

TITLE: Methods and compositions for cloning nucleic acid molecules

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fox; Donna K.	Sykesville	MD	21784	
Chatterjee; Deb K.	North Potomac	MD	20878	

US-CL-CURRENT: 435/91.41; 435/184, 435/194, 435/471, 435/91.1, 435/91.2, 435/91.5, 435/91.52

ABSTRACT:

The present invention is directed generally to methods facilitating the cloning of nucleic acid molecules. In particular, the invention relates to the use of polymerase inhibitors, including but not limited to anti-polymerase antibodies (such as anti-Taq antibodies) and fragments thereof, to inactivate residual polymerase activity remaining after the amplification (particularly via PCR) of a target nucleic acid molecule. The invention further provides compositions, particularly storage-stable compositions, comprising one or more components, such as one or more restriction endonucleases and one or more polymerase inhibitors, that are useful in cloning amplified or synthesized nucleic acid molecules by the above-described methods. The invention also relates to nucleic acid molecules produced by these methods, and to genetic constructs (such as vectors) and host cells comprising these nucleic acid molecules.

27 Claims, 1 Drawing figures
Exemplary Claim Number: 21
Number of Drawing Sheets: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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Terms	Documents
L6 and (avian myeloblastoses virus or amv)	36

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☐ 11. Document ID: US 6096545 A

L8: Entry 11 of 36 File: USPT Aug 1, 2000

US-PAT-NO: 6096545
DOCUMENT-IDENTIFIER: US 6096545 A

TITLE: Phosphate starvation-inducible proteins

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lefebvre; Daniel D.	Kingston			CAX
Malboobi; Mohammed A.	Kingston			CAX

US-CL-CURRENT: 435/410; 435/194, 435/252.33, 435/320.1, 536/23.1, 536/23.2, 536/23.6

ABSTRACT:

This invention provides proteins, especially protein kinases and glucosidases, which are expressed under conditions of phosphate deprivation. Further provided are nucleic acids and nucleic acid constructs encoding these proteins, cells containing the nucleic acids described and transgenic photosynthetic organisms with altered phosphate-inducible enzyme activity.

25 Claims, 33 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 28

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 12. Document ID: US 6040166 A

L8: Entry 12 of 36 File: USPT Mar 21, 2000

US-PAT-NO: 6040166
DOCUMENT-IDENTIFIER: US 6040166 A

TITLE: Kits for amplifying and detecting nucleic acid sequences, including a probe

DATE-ISSUED: March 21, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Erlich; Henry A.	Oakland	CA		
Horn; Glenn	Emeryville	CA		
Saiki; Randall K.	Richmond	CA		
Mullis; Kary B.	La Jolla	CA		
Gelfand; David H.	Oakland	CA		

US-CL-CURRENT: 435/194; 435/6, 435/91.2, 536/23.1

ABSTRACT:

The present invention is directed to a process for amplifying any target nucleic acid sequence contained in a nucleic acid or mixture thereof using a thermostable enzyme. The process comprises treating separate complementary strands of the nucleic acid with a molar excess of two oligonucleotide primers, extending the primers with a thermostable enzyme to form complementary primer extension products which act as templates for synthesizing the desired nucleic acid sequence, and detecting the sequence so amplified. The steps of the reaction can be repeated as often as desired and involve temperature cycling to effect hybridization, promotion of activity of the enzyme, and denaturation of the hybrids formed.

7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 13. Document ID: US 6020130 A

L8: Entry 13 of 36 File: USPT Feb 1, 2000

US-PAT-NO: 6020130
DOCUMENT-IDENTIFIER: US 6020130 A

TITLE: Nucleic acid ligands that bind to and inhibit DNA polymerases

DATE-ISSUED: February 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gold; Larry	Boulder	CO		
Javasena; Sumedha	Boulder	CO		

US-CL-CURRENT: 435/6; 435/194, 435/810, 435/91.2, 536/22.1, 536/24.3, 536/25.4

ABSTRACT:

This invention discloses high-affinity oligonucleotide ligands to the thermostable Taq polymerase and Tth polymerase. Specifically, this invention discloses DNA ligands having the ability to bind to the Taq and Tth polymerases and the methods for obtaining such ligands. The ligands are capable of inhibiting polymerases at ambient temperatures.

17 Claims, 35 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 17

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 14. Document ID: US 5998195 A

L8: Entry 14 of 36 File: USPT Dec 7, 1999

US-PAT-NO: 5998195
DOCUMENT-IDENTIFIER: US 5998195 A

TITLE: Highly-purified recombinant reverse transcriptase

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kacian; Daniel Louis	San Diego	CA		
Riggs; Michael Garth	San Diego	CA		
Putnam; James Garfield	San Diego	CA		

US-CL-CURRENT: 435/252.33; 435/194, 435/252.3, 536/23.2

ABSTRACT:

A plasmid for expression of Moloney Murine Leukemia Virus-derived reverse transcriptase in E. coli cells deficient in the expression of indiginous RNAse activity, a method for purification of the recombinant enzyme, and a composition comprising a cloned and purified reverse transcriptase opimized for use in cDNA and nucleic acid amplification procedures.

22 Claims, 20 Drawing figures
Exemplary Claim Number: 3
Number of Drawing Sheets: 12

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 15. Document ID: US 5935834 A

L8: Entry 15 of 36 File: USPT Aug 10, 1999

US-PAT-NO: 5935834
DOCUMENT-IDENTIFIER: US 5935834 A

TITLE: Reverse transcriptase composition having improved storage stability

DATE-ISSUED: August 10, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Odawara; Fumitomo	Shizuoka			JPX

US-CL-CURRENT: 435/194; 435/188, 435/193, 435/91.2

ABSTRACT:

Disclosed is a reverse transcriptase composition having improved storage stability, comprising a reverse transcriptase, an effective stabilizing amount of at least one organic stabilizing reagent selected from trehalose and a nucleic acid containing a transcriptional initiation site recognizable by the enzyme, and an effective stabilizing amount of a metal salt capable of producing bivalent positive ions in an aqueous solution of the metal salt. Also disclosed is a method for improving storage

stability of a reverse transcriptase, which comprises adding the above-mentioned organic stabilizing reagent and metal salt to a reverse transcriptase. The composition of the present invention can be stably stored for a prolonged period of time at a temperature up to at least 4.degree. C. Further, by virtue of a relatively high temperature usable for stable storage, the viscosity of the composition can be advantageously maintained at a low level, so that it becomes possible to accurately dispense the composition by a quantity corresponding to a desired enzyme activity, thereby achieving high reproducibility in experiments using the reverse transcriptase. Therefore, in the determination of a virus, in which a reverse transcriptase activity is used as an index, the composition of the present invention can be advantageously used as a standard substance for determining the amount of virus.

17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 16. Document ID: US 5935833 A

L8: Entry 16 of 36 File: USPT Aug 10, 1999

US-PAT-NO: 5935833
DOCUMENT-IDENTIFIER: US 5935833 A

TITLE: Highly-purified recombinant reverse transcriptase

DATE-ISSUED: August 10, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kacian; Daniel Louis	San Diego	CA		
Riggs; Michael Garth	San Diego	CA		
Putnam; James	San Diego	CA		

US-CL-CURRENT: 435/194; 435/252.33, 536/23.2

ABSTRACT:

A plasmid for expression of Moloney Murine Leukemia Virus-derived reverse transcriptase in E. coli cells deficient in the expression of indiginous RNAse activity, a method for purification of the recombinant enzyme, and a composition comprising a cloned and purified reverse transcriptase opimized for use in cDNA and nucleic acid amplification procedures.

5 Claims, 20 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 12

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 17. Document ID: US 5891637 A

L8: Entry 17 of 36 File: USPT Apr 6, 1999

US-PAT-NO: 5891637
DOCUMENT-IDENTIFIER: US 5891637 A

TITLE: Construction of full length cDNA libraries

DATE-ISSUED: April 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruppert; Siegfried J.W.	San Francisco	CA		

US-CL-CURRENT: 435/6; 435/194, 435/252.33, 435/455, 435/465, 435/476, 435/489, 435/91.2

ABSTRACT:

A method of producing cDNA from mRNA is described in which the 5' end of mRNA is capped and introduced into a vector so that both the 5' and 3' ends become annealed to flanking sequences of the vector. Reverse transcriptase is then used to convert the mRNA into dscDNA, the reverse transcriptase being employed in vivo, in vitro or using a combination of these approaches. Preferably, the conversion of mRNA to dscDNA is carried out in a cell line transformed with a second vector producing the reverse transcriptase, the cell line supplying the other enzymes and materials needed for cDNA synthesis. Also described are applications of this method to construct and screen cDNA libraries and cell lines transformed with both vectors.

35 Claims, 36 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 36

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 18. Document ID: US 5846532 A

L8: Entry 18 of 36 File: USPT Dec 8, 1998

US-PAT-NO: 5846532
DOCUMENT-IDENTIFIER: US 5846532 A

TITLE: Method and composition for the treatment of disorders involving immunological dysfunction

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kline; Ellis L.	Pendleton	SC		

US-CL-CURRENT: 424/94.6; 424/146.1, 424/184.1, 435/194, 436/506, 436/507, 436/508, 436/509, 514/12, 514/825

ABSTRACT:

A method and composition are provided for treatment of disorders involving immunological dysfunction. The invention comprises the administration of a low level of ribonucleotide polymerase protein or a derivative thereof to a human or animal with an immune dysfunction disorder.

16 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 19. Document ID: US 5834310 A

L8: Entry 19 of 36 File: USPT Nov 10, 1998

US-PAT-NO: 5834310
DOCUMENT-IDENTIFIER: US 5834310 A

TITLE: Mammalian muscle NAD: arginine ADP-ribosyltransferase

DATE-ISSUED: November 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moss; Joel	Bethesda	MD		
Okazaki; Ian	Rockville	MD		
Zolkiewska; Anna	Rockville	MD		
Nightingale; Maria S.	Bethesda	MD		

US-CL-CURRENT: 435/325; 435/193, 435/194, 435/252.3, 435/252.33, 435/320.1, 435/350, 435/351, 435/352, 435/353, 435/354 , 536/23.1, 536/23.2, 536/23.5

ABSTRACT:

This invention relates to the identification and molecular characterization of NAD:arginine ADP-ribosyltransferases. Sequences from the rabbit skeletal muscle NAD:arginine ADP-ribosyltransferase and the human NAD:arginine ADP-ribosyltransferase are provided herein. Recombinant protein is expressed from a recombinant gene vector containing at least 15 continuous bases of genes encoding these sequences.

6 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 20. Document ID: US 5804188 A

L8: Entry 20 of 36 File: USPT Sep 8, 1998

US-PAT-NO: 5804188
DOCUMENT-IDENTIFIER: US 5804188 A

TITLE: Method and composition for treatment of disorders involving immunological dysfunction

DATE-ISSUED: September 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kline; Ellis L.	Pendleton	SC		

US-CL-CURRENT: 424/184.1; 424/146.1, 424/94.6, 435/194, 436/506, 436/507, 436/508, 436/509, 514/2, 514/825

ABSTRACT:

A method and composition are provided for treatment of disorders involving immunological dysfunction. The invention comprises the administration of a low level of ribonucleotide polymerase protein or a derivative thereof to a human or animal with an immune dysfunction disorder.

20 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 21. Document ID: US 5744312 A

L8: Entry 21 of 36 File: USPT Apr 28, 1998

US-PAT-NO: 5744312
DOCUMENT-IDENTIFIER: US 5744312 A

TITLE: Thermostable DNA polymerase from Thermoanaerobacter thermohydrosulfuricus

DATE-ISSUED: April 28, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mamone; Joseph A.	Parma	OH		
Davis; Maria	Twinsburg	OH		
Sha; Dan	Euclid	OH		

US-CL-CURRENT: 435/6; 435/194, 435/252.3, 435/325, 435/419, 435/91.1, 435/91.2, 536/23.2

ABSTRACT:

An enzymatically active DNA polymerase or fragment thereof having at least 80% homology in its amino acid sequence to at least a contiguous 40 amino acid sequence of the DNA polymerase of Thermoanaerobacter thermohydrosulfuricus.

33 Claims, 18 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 17

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 22. Document ID: US 5714365 A

L8: Entry 22 of 36 File: USPT Feb 3, 1998

US-PAT-NO: 5714365
DOCUMENT-IDENTIFIER: US 5714365 A

TITLE: Sucrose phosphate synthetase isolated from maize

DATE-ISSUED: February 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Van Assche; Charles	Marseille			FRX
Lando; Danielle	Paris			FRX
Bruneau; Jean Michel	Paris			FRX
Voelker; Toni Alois	Davis	CA		
Gervais; Monica	Saint-Leu-la-Foret			FRX

US-CL-CURRENT: 435/194; 435/100, 436/548

ABSTRACT:

A protein having sucrose phosphate synthetase (SPS) activity is isolated from plants, preferably maize. The protein has a molecular weight of 110-130 dK and contains at least one peptide selected from Thv Trp Ile Lys, Try Val Val Glu Leu Ala Arg, Ser Met Pro Pro Ile Trp Ala Glu Val Met Arg, Leu Arg Pro Asp Gln Asp Try Leu Met His Ile Ser His Arg and Trp Ser His Asp Gly Ala Arg. Isolation is carried out by obtaining an extract from the plant by grinding, centrifugation and filtration; enriching the extract in SPS protein by precipitation in an appropriate solvent such as polyethylene glycol, centrifugation and solubilization of the precipitate obtained in a buffer solution; subjecting the protein thus obtained to low pressure anion exchange chromatography, chromatography on heparin Sepharose and high pressure anion exchange chromatography; and purifying the active fractions obtained by passage through two high pressure chromatography columns. Hybridomas and monoclonal antibodies are prepared from an antigen resulting from high pressure anion exchange chromatography above, antibodies directed specifically against SPS are selected and the antibodies are used to purify the SPS obtained previously. Complementary DNA coding for the SPS is prepared and used to modify expression of the SPS in plant cells.

2 Claims, 18 Drawing figures
Exemplary Claim Number: 2
Number of Drawing Sheets: 16

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 23. Document ID: US 5688637 A

L8: Entry 23 of 36 File: USPT Nov 18, 1997

US-PAT-NO: 5688637
DOCUMENT-IDENTIFIER: US 5688637 A

TITLE: Nucleotide sequences derived from the genome of retroviruses of the HIV-1, HIV-2 and SIV type, and their uses in particular for the amplification of the genomes of these retroviruses and for the in vitro diagnosis of the disease due to these viruses

DATE-ISSUED: November 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moncany; Maurice	Paris			FRX
Montagnier; Luc	Le Plessis-Robinson			FRX

US-CL-CURRENT: 435/6; 435/194, 435/91.2, 536/24.33

ABSTRACT:

The invention relates to nucleotidic sequences derived from genomes of the HIV-1 type virus, or from genomes of the HIV-2 type virus, or of the SIV type virus, and their applications, especially as oligo-nucleotidic initiators of implementation of an $i (in vitro) method for the diagnosis of the infection of an individual by a virus of the

HIV-1 and/or HIV-2 type.

14 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 24. Document ID: US 5614365 A

L8: Entry 24 of 36 File: USPT Mar 25, 1997

US-PAT-NO: 5614365
DOCUMENT-IDENTIFIER: US 5614365 A

TITLE: DNA polymerase having modified nucleotide binding site for DNA sequencing

DATE-ISSUED: March 25, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Stanley	Cambridge	MA		
Richardson; Charles	Chestnut Hill	MA		

US-CL-CURRENT: 435/6; 435/194, 435/195, 435/488, 435/69.1, 435/91.1, 435/91.2, 530/350, 536/23.1, 536/23.2

ABSTRACT:

Modified gene encoding a modified DNA polymerase wherein the modified polymerase incorporates dideoxynucleotides at least 20-fold better compared to the corresponding deoxynucleotides as compared with the corresponding naturally-occurring DNA polymerase.

108 Claims, 6 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 25. Document ID: US 5604099 A

L8: Entry 25 of 36 File: USPT Feb 18, 1997

US-PAT-NO: 5604099
DOCUMENT-IDENTIFIER: US 5604099 A

TITLE: Process for detecting specific nucleotide variations and genetic polymorphisms present in nucleic acids

DATE-ISSUED: February 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Erlich; Henry A.	Oakland	CA		
Horn; Glenn	Emeryville	CA		
Saiki; Randall K.	Richmond	CA		
Mullis; Kary B.	Kensington	CA		

US-CL-CURRENT: 435/6; 435/194, 435/91.2, 435/91.21, 536/24.3, 536/24.33

ABSTRACT:

Single or multiple nucleotide variations in nucleic acid sequence can be detected in nucleic acids by a process whereby the sample suspected of containing the relevant nucleic acid is repeatedly treated with primers, nucleotide triphosphates, and an agent for polymerization of the triphosphates and then denatured, in a process which amplifies the sequence containing the nucleotide variation if it is present. In one embodiment, the sample is spotted on a membrane and treated with a labeled sequence-specific oligonucleotide probe. Hybridization of the probe to the sample is detected by the label on the probe.

32 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 26. Document ID: US 5468613 A

L8: Entry 26 of 36 File: USPT Nov 21, 1995

US-PAT-NO: 5468613
DOCUMENT-IDENTIFIER: US 5468613 A

TITLE: Process for detecting specific nucleotide variations and genetic polymorphisms present in nucleic acids

DATE-ISSUED: November 21, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Erlich; Henry A.	Oakland	CA		
Horn; Glenn	Emeryville	CA		
Saiki; Randall K.	Richmond	CA		
Mullis; Kary B.	Kensington	CA		

US-CL-CURRENT: 435/6; 435/194, 435/91.2, 435/91.21, 536/24.3, 536/24.33

ABSTRACT:

Single or multiple nucleotide variations in nucleic acid sequence can be detected in nucleic acids by a process whereby the sample suspected of containing the relevant nucleic acid is repeatedly treated with primers, nucleotide triphosphates, and an agent for polymerization of the triphosphates and then denatured, in a process which amplifies the sequence containing the nucleotide variation if it is present. In one embodiment, the sample is spotted on a membrane and treated with a labeled sequence-specific oligonucleotide probe. Hybridization of the probe to the sample is detected by the label on the probe.

32 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 27. Document ID: US 5434070 A

L8: Entry 27 of 36 File: USPT Jul 18, 1995

US-PAT-NO: 5434070
DOCUMENT-IDENTIFIER: US 5434070 A

TITLE: Reverse transcriptases from Escherichia coli and Myxococcus xanthus

DATE-ISSUED: July 18, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Inouye; Sumiko	Bridgewater	NJ		
Inouye; Masayori	Bridgewater	NJ		

US-CL-CURRENT: 435/194; 536/23.2, 536/25.2

ABSTRACT:

The common conserved structural features of msDNAs are described. A synthesis of msDNAs is described which involves a necessary reverse transcriptase. Reverse transcriptases are described which have unique properties in the synthesis of cDNAs. Various utilities are described.

7 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 21

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 28. Document ID: US 5268274 A

L8: Entry 28 of 36 File: USPT Dec 7, 1993

US-PAT-NO: 5268274
DOCUMENT-IDENTIFIER: US 5268274 A

TITLE: Methods and nucleic acid sequences for the expression of the cellulose synthase operon

DATE-ISSUED: December 7, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ben-Bassat; Arie	Walnut Creek	CA		
Calhoon; Roger D.	Concord	CA		
Fear; Anna L.	Oakland	CA		
Gelfand; David H.	Oakland	CA		
Meade; James H.	Pinole	CA		
Tal; Rony	Richmond	CA		
Wong; Hing	San Ramon	CA		
Benziman; Moshe	Jerusalem			ILX

US-CL-CURRENT: 435/69.1; 435/101, 435/194, 435/252.3, 435/252.33, 435/320.1, 435/823, 536/23.2

ABSTRACT:

Nucleic acid sequences encoding the bacterial cellulose synthase operon derived from Acetobacter are disclosed. Methods for isolating the genes, vectors containing the genes, and transformed hosts useful for the expression of recombinant bacterial cellulose synthase or production of cellulose are also described.

53 Claims, 15 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 26

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 29. Document ID: US 5266466 A

L8: Entry 29 of 36 File: USPT Nov 30, 1993

US-PAT-NO: 5266466
DOCUMENT-IDENTIFIER: US 5266466 A

TITLE: Method of using T7 DNA polymerase to label the 3' end of a DNA molecule

DATE-ISSUED: November 30, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Stanley	Cambridge	MA		
Richardson; Charles C.	Chestnut Hill	MA		

US-CL-CURRENT: 435/91.5; 435/194, 435/6

ABSTRACT:

This invention relates to T7-type DNA polymerases and methods for using them.

1 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 30. Document ID: US 5243039 A

L8: Entry 30 of 36 File: USPT Sep 7, 1993

US-PAT-NO: 5243039
DOCUMENT-IDENTIFIER: US 5243039 A

TITLE: Bacillus MGA3 aspartokinase II gene

DATE-ISSUED: September 7, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schendel; Frederick J.	Oakdale	MN		
Flickinger; Michael C.	St. Paul	MN		

US-CL-CURRENT: 536/23.2; 435/193, 435/194, 435/252.3

ABSTRACT:

The present invention provides the isolated DNA sequence encoding the .alpha.B dimer subunit of the lysine-sensitive aspartokinase II isozyme from the thermophilic methylotrophic Bacillus sp. MGA3.

2 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 6

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☐ 31. Document ID: US 5145776 A

L8: Entry 31 of 36 File: USPT Sep 8, 1992

US-PAT-NO: 5145776
DOCUMENT-IDENTIFIER: US 5145776 A

TITLE: Method of using T7 DNA polymerase to mutagenize and fill-in DNA

DATE-ISSUED: September 8, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Stanley	Cambridge	MA		
Richardson; Charles C.	Chestnut Hill	MA		

US-CL-CURRENT: 435/91.5; 435/194, 435/6

ABSTRACT:

Methods for producing blunt-ended double stranded DNA, for labelling the 3'-end of a DNA fragment, and for in vitro mutagenesis of a DNA fragment. A processive DNA polymerase is used in each method.

9 Claims, 10 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

☐ 32. Document ID: US 5001050 A

L8: Entry 32 of 36 File: USPT Mar 19, 1991

US-PAT-NO: 5001050
DOCUMENT-IDENTIFIER: US 5001050 A

TITLE: PH.phi.29 DNA polymerase

DATE-ISSUED: March 19, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blanco; Luis	Madrid			ESX
Bernad; Antonio	Madrid			ESX
Salas; Margarita	Madrid			ESX

US-CL-CURRENT: 435/5; 435/183, 435/194, 435/6, 435/91.2, 435/91.5, 436/501, 436/93

ABSTRACT:

An improved method for determining the nucleotide base sequence of a DNA molecule. The method includes annealing the DNA molecule with a primer molecule able to hybridize to the DNA molecule; incubating the annealed mixture in a vessel containing four different deoxynucleoside triphosphates, a DNA polymerase, and one or more DNA synthesis terminating agents which terminate DNA synthesis at a specific nucleotide base, wherein each the agent terminates DNA synthesis at a different nucleotide base; and separating the DNA products of the incubating reaction according to size, whereby at least a part of the nucleotide base sequence of the DNA can be determined. The improvement is provision of a DNA-polymerase which is a .phi.29-type DNA polymerase.

20 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 33. Document ID: US 4946786 A

L8: Entry 33 of 36 File: USPT Aug 7, 1990

US-PAT-NO: 4946786
DOCUMENT-IDENTIFIER: US 4946786 A

TITLE: T7 DNA polymerase

DATE-ISSUED: August 7, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Stanley	Cambridge	MA		
Richardson; Charles C.	Chestnut Hill	MA		

US-CL-CURRENT: 435/194; 435/252.33, 435/320.1

ABSTRACT:

1Method for production of a composition consisting essentially of a T7-type DNA polymerase and thioredoxin. The method includes culturing a cell containing plasmid DNA encoding a T7-type DNA polymerase to express the T7-type DNA polymerase from the plasmid DNA, and purifying the T7-type DNA polymerase expressed from the cell to reduce the exonuclease activity associated with the T7-type DNA polymerase compared to the level of exonuclease activity associated with a corresponding naturally-occurring T7-type DNA polymerase.

18 Claims, 22 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 34. Document ID: US 4943531 A

L8: Entry 34 of 36 File: USPT Jul 24, 1990

US-PAT-NO: 4943531
DOCUMENT-IDENTIFIER: US 4943531 A

TITLE: Expression of enzymatically active reverse transcriptase

DATE-ISSUED: July 24, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Goff; Stephen P.	Tenafly	NJ		
Tanese; Naoko	New York	NY		
Roth; Monica J.	Bronx	NY		

US-CL-CURRENT: 435/194; 435/252.33, 435/320.1

ABSTRACT:

This invention provides a plasmic which, when introduced into a suitable host cell and grown under appropriate conditions, effects expression of a gene on the plasmid and production of a polypeptide having reverse transcriptase activity. The plasmid is a double-stranded DNA molecule which includes in a 5' to 3' order the following: a DNA sequence which includes an inducible promoter; a DNA sequence which includes an ATG initiation condon; the central portion of the Moloney murine leukemia virus (MuLV) pol gene, said central portion including a DNA sequence which encodes the polypeptide having reverse transcriptase activity; a DNA sequence which contains a gene associated with a selectable or identifiable phenotypic trait which is manifested when the vector is present in the host cell; and a DNA sequence which contains an origin of replication from a bacterial plasmid capable of autonomous replication in the host cell.

The invention also concerns a method for recovering purified enzymatically-active polypeptide having reverse transcriptase activity, the polypeptide being encoded by the plasmid pB6 B15.23, from a suitable host cell e.g., E. coli HB101 producing the polypeptide. Finally, the invention concerns use of the polypeptide to prepare complementary DNA (cDNA).

3 Claims, 5 Drawing figures
Exemplary Claim Number: 3
Number of Drawing Sheets: 5

☐ 35. Document ID: US 4942130 A

L8: Entry 35 of 36 File: USPT Jul 17, 1990

US-PAT-NO: 4942130
DOCUMENT-IDENTIFIER: US 4942130 A

TITLE: T7 DNA polymerase

DATE-ISSUED: July 17, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tabor; Stanley	Cambridge	MA		
Richardson; Charles C.	Chestnut Hill	MA		

US-CL-CURRENT: 435/194; 435/849, 536/23.2

27 Claims, 10 Drawing figures

Exemplary Claim Number: 1
Number of Drawing Sheets: 19

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

☐ 36. Document ID: US 4921794 A

L8: Entry 36 of 36 File: USPT May 1, 1990

US-PAT-NO: 4921794
DOCUMENT-IDENTIFIER: US 4921794 A

TITLE: T7 DNA polymerase

DATE-ISSUED: May 1, 1990

INVENTOR-INFORMATION:

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Richardson; Charles C.	Chestnut Hill	MA		

US-CL-CURRENT: 435/91.2; 435/194, 435/320.1, 536/23.1, 536/24.33

ABSTRACT:

This invention relates to T7-type DNA polymerases and methods for amplification of DNA, for example by polymerase chain reaction.

24 Claims, 9 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 17

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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